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A ADDRESS OF OPERATOR   P.O. BOX 175779, Derived. CO. 302 17   P.O. BOX 175779, Derived. CO.	4. TYPE OF WEL	LL												ENT NAM	1E
ADDRESS OF PERATOR	6. NAME OF OP	PERATOR										<b>.</b>			
11. MIRRAL LEASE NUMBER    FECERAL, MONA OR STATE    OFFICE	8. ADDRESS OF	OPERATO										L			
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15. ADDRESS OF SURFACE OWNER (# box 12 = "fee")  17. INDIAN ALLOTTEE OR TRIBE NAME (# box 12 = "fee")  18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORAL (# box 12 = "fee")  19. SLANT  VERTICAL		U'	TU 010950-A		FEC	DERAL DE IND	DIAN 🔵	STATE (	FEE		-				EE 💮
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20. LOCATION OF WELL   FOOTAGES   OTR-OTR   SECTION   TOWNSHIP   RANGE   MERIDIAN	15. ADDRESS C	OF SURFAC	CE OWNER (if box	12 = 'fee')							16. SURFACE OWNE	R E-MAIL	(if box 12	! = 'fee')	
20. LOCATION OF WELL  FOOTAGES  QTR-QTR  SECTION  TOWNSHIP  RANGE  MERIDIAN  LOCATION AT SURFACE  1973 FSL 262 FEL  NESE  22  9.0 S  21.0 E  S  Top of Uppermost Producing Zone  2237 FSL 494 FEL  NESE  22  9.0 S  21.0 E  S  AT Total Depth  23. DISTANCE TO NEAREST WELL IN SAME POOL  (Applied For Drilling or Comysted)  (Applied For Drilling or Comysted)  WY8000291  23. DISTANCE TO NEAREST WELL IN SAME POOL  (Applied For Drilling or Comysted)  49.3 SURFACE  24. SOUNTER RIGHTS APPROVAL NUMBER of ACRES IN DRILLING UNIT  25. DISTANCE TO NEAREST WELL IN SAME POOL  (Applied For Drilling or Comysted)  (Applied For Drilling or Comysted)  27. ELEVATION - GROUND LEVEL  48.38  WY8000291  28. BOND NUMBER  48.38  WY8000291  29. PROPOSED DEPTH  WATER RIGHTS APPROVAL NUMBER I PAPLICABLE  ***  **Hole, Casing, and Gement Information**  **WY8000291  **Type V 150 1.1.15 15.8  **TATACHMENTS**  **ATTACHMENTS**  **ATTACHMENTS**  **ATTACHMENTS**  **ATTACHMENTS**  **ATTACHMENTS**  **VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**  **WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER**  **WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER**  **WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER**  **POOR TATACHMENTS**  **TILE Regulatory Analyst II**  PHONE 720 920-8356  **SECTION TOWNSHIP RECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)  **POOR APPROVAL**  **APPROVAL**  **ATTACHMENTS**  **ATTACHMENTS**  **ATTACHMENTS**  **ATTACHMENTS**  **ATTACHMENTS**  **ATTACHMENTS**  **ATTACHMENTS**  *			R TRIBE NAME					RODUCTION	FROM		19. SLANT				
COCATION AT SURPLACE   1973 FSL 620 FEL   NESE   22   9.0 S   21.0 E   S	(II DOX 12 = IN		e Indian Tribe		YES	S (Submit C	Commingli	ing Applicati	on) NO		VERTICAL DI	RECTION	AL 📵 H	HORIZON	TAL 🔵
Top of Uppermost Producing Zone   2237 FSL 494 FEL   NESE   22   9.0 S   21.0 E   S	20. LOCATION	OF WELL			FOOTAGI	ES	QTR	QTR-QTR SECTION			TOWNSHIP	R/	ANGE	МЕ	ERIDIAN
A Total Depth   2237 FSL 494 FEL   NESE   22   9.0 S   21.0 E   S	LOCATION AT	SURFACE		197	73 FSL 62	20 FEL	NE	ESE		22	9.0 S	2	1.0 E		S
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WYB000291	27. ELEVATION	I - GROUN	D LEVEL		28. BO	OND NUMBER	303	ა 							
String   Hole Size   Casing Size   Length   Weight   Grade & Thread   Max Mud Wt.   Cement   Sacks   Vield   Weight   Surf   11   8.625   0 - 2790   28.0   J-55 LT&C   0.2   Type V   18.0   1.15   15.8			4838				WYB00	00291			WATER RIGHTS APPR			PPLICAB	LE
Surf         11         8.625         0 - 2790         28.0         J-55 LT&C         0.2         Type V         180         1.15         15.8           Prod         7.875         4.5         0 - 11007         11.6         HCP-110 LT&C         13.0         Premium Lite High Strength         340         3.38         12.0           ATTACHMENTS           VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES           Image: Well PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER         Image: Complete Drilling Plan           Image: Complete Drilling Plan         FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER           Image: Complete Drilling Plan         Image: Complete Drilling Plan         Image: Complete Drilling Plan           Image: Complete Drilling Plan         Properator is other than the Lease owner         Image: Complete Drilling Plan           Image: Complete Drilling Plan         Image: Complete Drilling Plan         Image: Complete Drilling Plan           Image: Complete Drilling Plan         Properator is other than the Lease owner           Image: Complete Drilling Plan         Image: Complete Drilling Plan           Image: Complete Drilling Plan         Image: Complete Drilling Plan           Image: Complete Drilling Plan         Image: Complete Drilling Plan         Image: Complete Drilling Plan <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>n</td> <td></td> <td></td> <td></td> <td></td> <td></td>										n					
Prod 7.875 4.5 0 - 11007 11.6 HCP-110 LT&C 13.0 Premium Lite High Strength 340 3.38 12.0 50/50 Poz 1570 1.31 14.3  ATTACHMENTS  VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES  WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER  AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)  DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)  NAME Laura Abrams  TITLE Regulatory Analyst II  PHONE 720 929-6356  SIGNATURE  DATE 04/27/2012  EMAIL Laura. Abrams@anadarko.com  APPROVAL  APPROVAL  APPROVAL				_						-					
ATTACHMENTS  VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES  WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER  AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)  DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)  NAME Laura Abrams  TITLE Regulatory Analyst II  PHONE 720 929-6356  SIGNATURE  DATE 04/27/2012  APPROVAL  APPROVAL  APPROVAL  APPROVAL	Juli		0.023	0 - 27 90	20.0	0-33 E1		0.							
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NAME Laura Abrams  TITLE Regulatory Analyst II  PHONE 720 929-6356  SIGNATURE  DATE 04/27/2012  EMAIL Laura.Abrams@anadarko.com  API NUMBER ASSIGNED 43047525600000  APPROVAL	AFFIDAV	/IT OF STA	TUS OF SURFACE	OWNER AGREEM	MENT (IF FE	EE SURFACE)		FORM	1 5. IF OP	ERATOR IS	S OTHER THAN THE L	EASE OW	NER		
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API NUMBER ASSIGNED 43047525600000	NAME Laura Al	brams			TITLE R	egulatory Analyst	II			PHONE 7	20 929-6356				
43047525600000	SIGNATURE				DATE 0	4/27/2012				EMAIL La	aura.Abrams@anadark	o.com			
	I		0000		APPROV	VAL				Perm	OGGILL it Manager				

NBU 921-22I Pad Drilling Program

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# Kerr-McGee Oil & Gas Onshore, L.P.

NBU 921-22I1CS

Surface: 1973 FSL / 620 FEL NESE BHL: 2237 FSL / 494 FEL NESE

Section 22 T9S R21E

Unitah County, Utah Mineral Lease: UTU 010950-A

## **ONSHORE ORDER NO. 1**

# **DRILLING PROGRAM**

# 1. & 2.a <u>Estimated Tops of Important Geologic Markers</u>: Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,544'	
Birds Nest	1,795'	Water
Mahogany	2,340'	Water
Wasatch	4,862'	Gas
Mesaverde	7,733'	Gas
Sego	9,958'	Gas
Castlegate	10,038'	Gas
MN5	10,392'	Gas
TVD =	10,992'	
TD =	11,007'	

2.c Kerr McGee Oil & Gas Onshore LP (Kerr McGee) will either drill to the the Blackhawk formation, which is part of the Mesaverde formation, or the Wasatch/Mesaverde formation. If Kerr McGee drills to the Blackhawk formation (part of the Mesaverde formation), please refer to MN5 as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr McGee drills to the Wasatch/Mesaverde formation please refer to Sego as the bottom formation. The attached Wasatch/Mesaverde Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the depths the Wasatch/Mesaverde formations are found.

NBU 921-22I Pad Drilling Program 2 of 4

## 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

## 4. <u>Proposed Casing & Cementing Program:</u>

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

## 5. Drilling Fluids Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

## 6. Evaluation Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

# 7. <u>Abnormal Conditions</u>:

## 7.a Blackhawk (Part of Mesaverde Formation) Target Formation

Maximum anticipated bottom hole pressure calculated at 7,255 psi (0.66 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,887 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

## 7.b Wasach/Mesaverde Target Formation

Maximum anticipated bottom hole pressure calculated at 9958' TVD, approximately equals 6,373 psi (0.64 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,168 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

# 8. <u>Anticipated Starting Dates:</u>

Drilling is planned to commence immediately upon approval of this application.

## 9. <u>Variances:</u>

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program Onshore Order #2 – Air Drilling Variance

 $Kerr-McGee\ Oil\ \&\ Gas\ Onshore\ LP\ (KMG)\ respectfully\ requests\ a\ variance\ to\ several\ requirements\ associated\ with\ air\ drilling\ outlined\ in\ Onshore\ Order\ 2$ 

- · Blowout Prevention Equipment (BOPE) requirements;
- · Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

NBU 921-22I Pad Drilling Program
3 of 4

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

## Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

## Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

## Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

## Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

NBU 921-22I Pad Drilling Program
4 of 4

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

### Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

## 10. Other Information:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

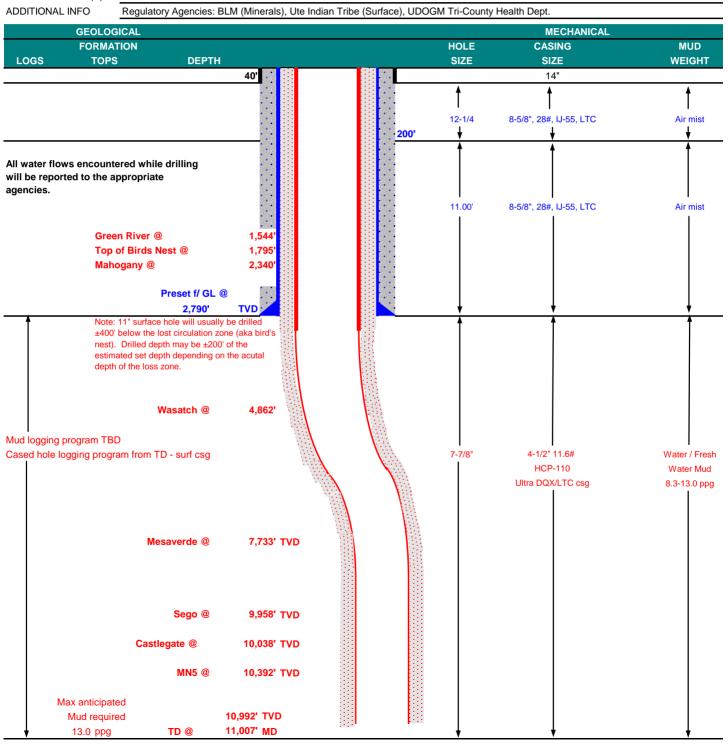
NBU 921-22I Pad Drilling Program

1 of 2



# KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

COMPANY NAME KER	R-McGEE OIL &	GAS ONSHORE	LP		DATE	December	19, 2011		
WELL NAME <b>NB</b>	U 921-22I1C	3			TD	10,992'	TVD	11,007' MD	
FIELD Natural Buttes COUNTY Uintah STATE Utah			h	FINIS	SHED ELEVATION _	4,838'			
SURFACE LOCATION	NESE	1973 FSL	620 FEL	Sec 22	T 9S	R 21E			
	Latitude:	40.019713	Longitude	e: -109.53	0629		NAD 83		
BTM HOLE LOCATION	NESE	2237 FSL	494 FEL	Sec 22	T 9S	R 21E			
	Latitude:	40.020436	Longitude	e: -109.53	0179		NAD 83		
OBJECTIVE ZONE(S)	BLACKHAWK						_		
ADDITIONAL INFO Regulatory Agencies: BLM (Minerals). Ute Indian Tribe (Surface). UDOGM Tri-County Health Dept.									



NBU 921-22I Pad Drilling Program 2 of 2



# KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

CASING PROGRAM

CONDUCTOR	
SURFACE	
PRODUCTION	

									LTC	DQX
SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TE	TENSION	
14"	(	)-40'								
							3,390	1,880	348,000	N/A
8-5/8"	0	to	2,790	28.00	IJ-55	LTC	1.93	1.44	5.09	N/A
							10,690	8,650	279,000	367,174
4-1/2"	0	to	5,000	11.60	HCP-110	DQX	1.19	1.16		3.59
4-1/2"	5,000	to	11,007'	11.60	HCP-110	LTC	1.19	1.16	5.00	

**Surface Casing:** 

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

## **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 jobs	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
		+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to	surface, op	tion 2 will be	utilized	
Option 2 LEAD	2,290'	65/35 Poz + 6% Gel + 10 pps gilsonite	210	35%	11.00	3.82
		+ 0.25 pps Flocele + 3% salt BWOW				
TAII	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
		+ 0.25 pps flocele				
TOP OUT CM	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION LEAD	4,357'	Premium Lite II +0.25 pps	340	35%	12.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TAII	6,650'	50/50 Poz/G + 10% salt + 2% gel	1,570	35%	14.30	1.31
		+ 0.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

# **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE

Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe

PRODUCTION

Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.  $\square$ 

1 centralizer on the first 3 joints and one every third joint thereafter.

## ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Survev	's will	be	taken	at	1.000'	minimum	intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

	Most rigs have i vi System for muu	monitoring. If no t vi is available, visual monitoring will be util	iizeu.	
DRILLING	ENGINEER:		DATE:	
		Nick Spence / Danny Showers / Chad Loesel	_	
DRILLING	SUPERINTENDENT:		DATE:	
		Kenny Gathings / Lovel Young	_	

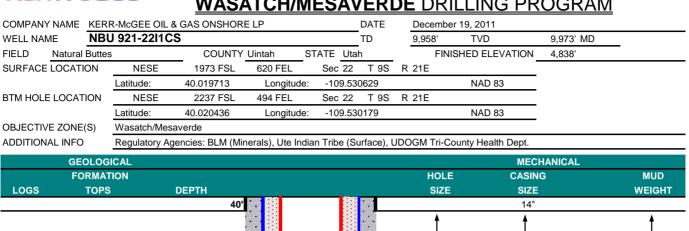
**DESIGN FACTORS** 

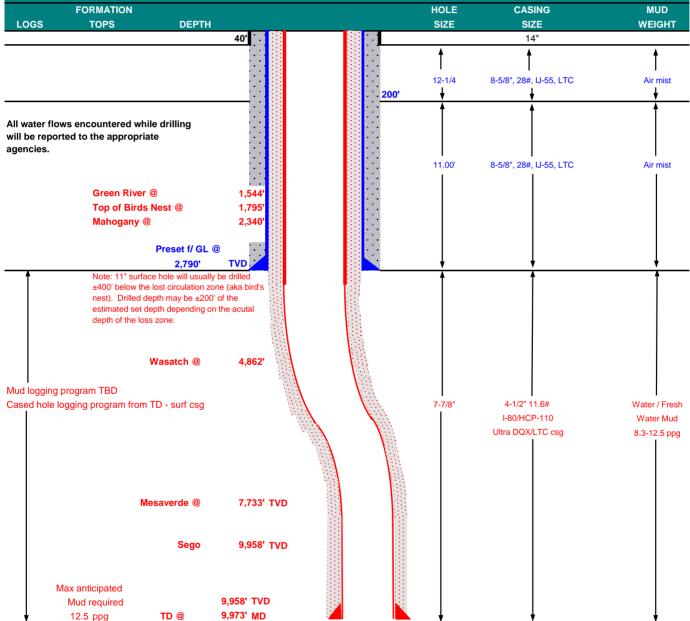
<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

NBU 921-22I Pad Drilling Program
1 of 2



# KERR-McGEE OIL & GAS ONSHORE LP WASATCH/MESAVERDE DRILLING PROGRAM





NBU 921-221 Pad **Drilling Program** 2 of 2



## KERR-McGEE OIL & GAS ONSHORE LP

WASATCH/MESAVERDE DRILLING PROGRAM

# **CASING PROGRAM**

CONDUCTOR

**SURFACE** 

**PRODUCTION** 

									LTC	DQX
SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TE	TENSION	
14"		0-40'								
							3,390	1,880	348,000	N/A
8-5/8"	0	to	2,790	28.00	IJ-55	LTC	1.93	1.44	5.09	N/A
							7,780	6,350		267,035
4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	0.98		2.85
							10,690	8,650	223,000	
4-1/2"	5,000	to	9,973'	11.60	HCP-110	LTC	1.53	1.34	4.78	

**Surface Casing:** 

(Burst Assumptions: TD =

12.5

ppg)

0.73 psi/ft = frac gradient @ surface shoe

**DESIGN FACTORS** 

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**Production casing:** 

(Burst Assumptions: Pressure test with 8.4ppg @

7000

0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

## **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGH	T	YIELD	
SURFACE LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80		1.15	
Option 1		+ 0.25 pps flocele						
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80		1.15	
		+ 2% CaCl + 0.25 pps flocele						
SURFACE	NOTE: If well will circulate water to surface, option 2 will be utilized							
Option 2 LEAD	2,290'	65/35 Poz + 6% Gel + 10 pps gilsonite	210	35%	11.00		3.82	
		+ 0.25 pps Flocele + 3% salt BWOW						
TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80		1.15	
		+ 0.25 pps flocele						
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15	
PRODUCTION LEAD	4,353'	Premium Lite II +0.25 pps	340	35%	12.00		3.38	
		celloflake + 5 pps gilsonite + 10% gel						
		+ 0.5% extender						
TAIL	5,620'	50/50 Poz/G + 10% salt + 2% gel	1,330	35%	14.30		1.31	
		+ 0.1% R-3						

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

# **FLOAT EQUIPMENT & CENTRALIZERS**

**SURFACE** 

Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe

**PRODUCTION** 

Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. centralizer on the first 3 joints and one every third joint thereafter

## **ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will	l be taken at	1,000'	minimum	intervals

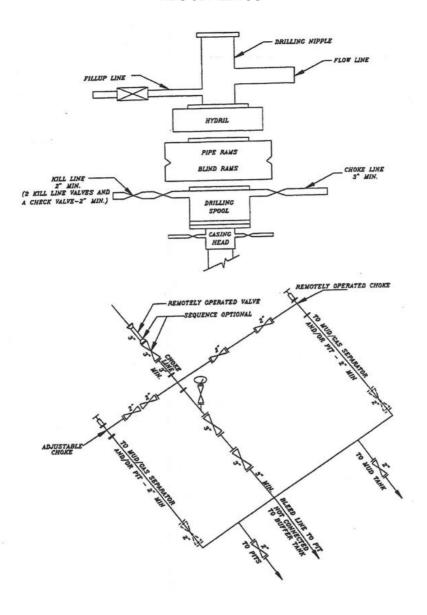
Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:		DATE:	
	Nick Spence / Danny Showers / Chad Loesel		
DRILLING SUPERINTENDENT:		DATE:	

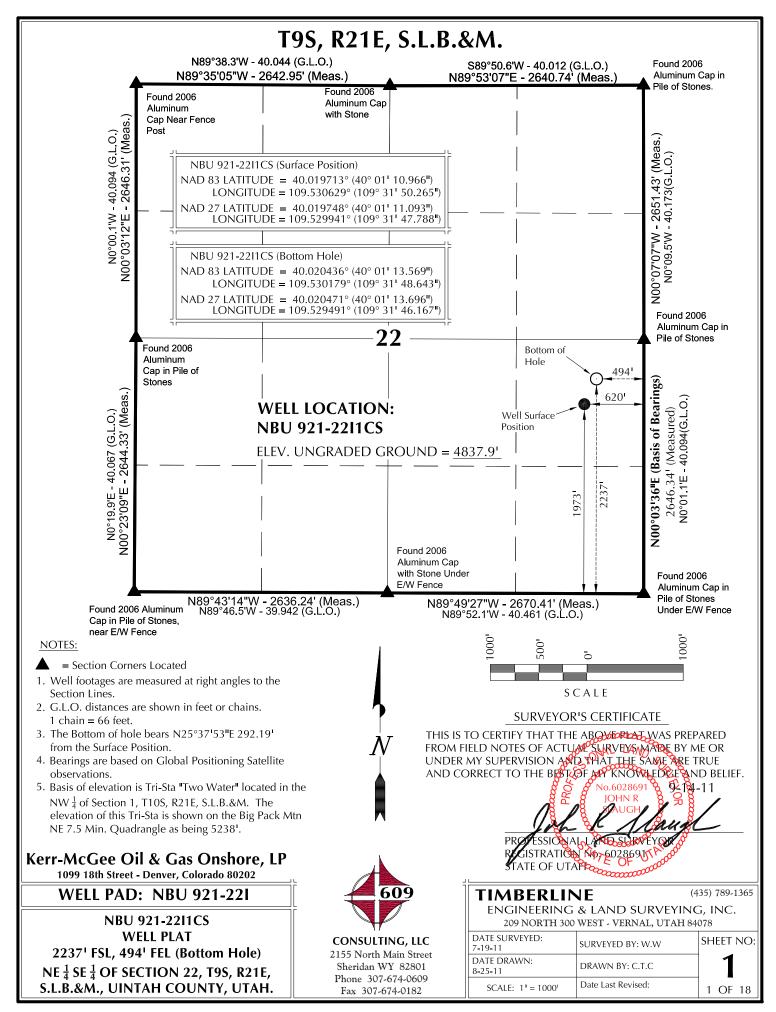
Kenny Gathings / Lovel Young

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

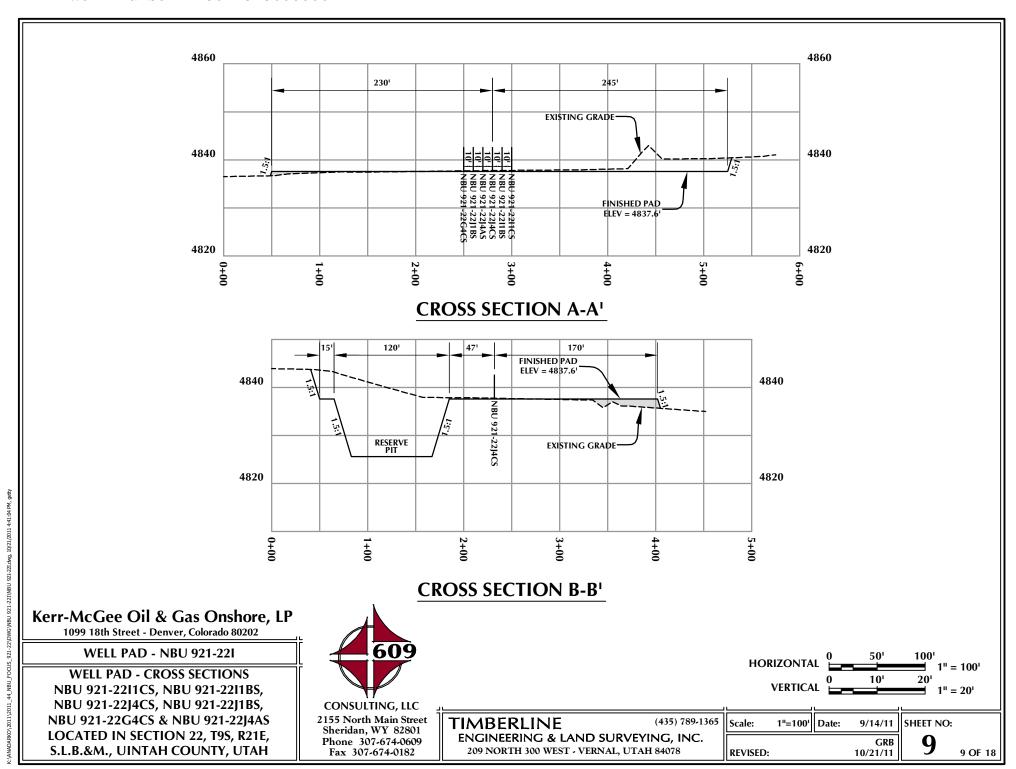
EXHIBIT A NBU 921-2211CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



ı		SURFACE POS	SITION			BOTTOM HOLE						
WELL NAME		AD83		NAD27				NAE	D83	NAE		
NBU	40°01'10.966	LONGITU				FOOTAGES	40°011	TUDE 13.569"	LONGITUDE		LONGITUDE	FOOTAGES
	40°01°10.966 40.019713°	5" 109°31'50. 109.53062			'47.788" 9941°	1973' FSL 620' FEL	40.020		109°31'48.643 109.5301 <i>7</i> 9°	40.020471°	109°31'46.167" 109.529491°	2237' FSL 494' FEL
NBU	40°01'11.045	5" 109°31'50.	.343" 40°01'11.	171" 109°31	'47.866"	1981' FSL	40°01'	16.849"	109°31'48.642	" 40°01'16.976"	109°31'46.165"	2569¹ FSL
	40.019735° 40°01'11.123	109.53065 109°31'50			9963° '47.944"	626' FEL 1989' FSL	40.021 40°01'0	347° 05.429"	109.530178° 109°32'05.647	40.021382° 40°01'05.556"	109.529490° 109°32'03.170"	494' FEL 1410' FSL
	40.019756°	109-31-50.				632' FEL	40.018	175°	109.534902°	40.018210°	109°32'03.170" 109.534214°	1817' FEL
	40°01'11.202			1.00 0.	'48.021"	1997' FSL			109°32'02.600	40°01'09.364" 40.019268°	109°32'00.123"	1796' FSL
	40.019778° 40°01'11.281	109.53069 1 109°31'50			'48.098"	638' FEL 2005' FSL	40.019 40°01'	233° 15.259"	109.534056° 109°32'05.644		109.533368° 109°32'03.166"	1580' FEL 2405' FSL
921-22J1BS	40.019800°	109.53071	5° 40.01983	6° 109.53	0027°	644' FEL	40.020	905°	109.534901°	40.020941°	109.534213°	1817' FEL
	40°01'11.360 40.019822°	0"  109°31'50.  109.53073		1000	'48.1 <i>7</i> 5" 0049°	2013' FSL 650' FEL	40°01'' 40.021	18.367" 769°	109°32'05.659 109.534905°	40°01'18.494" 40.021804°	109°32'03.181"  109.534217°	2569' FNL 1818' FEL
NBU 457	40°01'11.054		·	103133	'48.277"	1982' FSL	101021	, 05	103.334303	101021001	105.554217	TOTO TEE
	40.019737°	109.53076	-		-	658' FEL						
MAZELL NIA MAE	NORTH	FACT	1			From Surface			1	JA/ELL NIAAA	IE NORTH	FACT
NBU NAME	NORTH	126.41	WELL NAME NBU	NORTH	EAST	NIDII	INAME	NOR		WELL NAM		EAST 043.01
921-22I1CS	263.4'	126.4'	921-22I1BS	587.2	132.8	921-22	J4CS	-575	.5' -1185.4	921-22J4AS	-198.2	-942.01
WELL NAME	NORTH	EAST	WELL NAME NBU	NORTH	EAST					1	<u> </u>	
NBU 921-22J1BS	403.61	-1172.31	921-22G4CS	710.11	-1167.	2'				4	<b>/</b> \	
		_	\							,	<u>ò</u> /	
		•	<b>\</b>		/				<u>~</u>	33,		\
			\\\\5\p\_\	12301.31 11/04/W 1 11/04/W 1	\	7.1.			(To Bottom Hole) AZ=12.74194°		0,000 / 0,000	/
•	_	1 ~	(70 %	17/0/1/2	7.	14,00			n L. 119	5/ 5/2	14	/
	\ \N>	7°00'=288	70 86 2.99583° - 1239.86' Hole)	1/04/W 1	5560	1 350	6,		tor. 7	$\frac{1}{2}$ $\frac{1}$	<b>,</b> 0	1
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		Dottom	Hol 39.86'	1 °C	) /8/	` \	137		07.4	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
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						JBU 6	3	19 (	(C)			
	=258.1197	72°				19 KBU 97 19 19 19 19 19 19 19 19 19 19 19 19 19	Jaj A	1,22	21165			
AZ=	=258.119; 7'11"W - (	962.61'_	. — — —		23780	26.00	4,10	321	DAN BA	SIS OF BEARIN		
578°0	7'11"W - ' Bottom F	iole)		,0	A313838	21° 2" NELL	MARC	321	TH	IE SE ¼ OF SECT .B.&M. WHICH		
110	Bottom F			NH.	11.23.12	70 ° 50 %	O'THE	, <b>v</b>	S.L	.b.&m. which Obal Positic		
(,				tist WHY	15/121,	· 93801 (8° 3)	39.1' 1-		OE	SERVATIONS T		
			110	Exist. W.	<b>V</b> 13251	11,195024°	J			1		
		_	- PL 10	, to Exi.	NHY	7183.29		\	\			
		~ Hole)	(10)	Exist	1, N. 75;	11						
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				<b>D</b>								.09
Kerr-McC	Gee Oil	& Gas C	)nshare I	P		k .						.09 
Kerr-McC	Gee Oil o			.P						SCAL	E	.09
1099 18	8th Street - D	enver, Colo	rado 80202 <sup>°</sup>	.₽ ≕¦		609		   T	MREDI			
1099 18		enver, Colo	rado 80202 <sup>°</sup>	.P		609		11	MBERL	INE	(4	35) 789-1365
WELL	Sth Street - D  L PAD -  PAD INT	NBU 9:	21-22I CE PLAT	.P		609		11	engineerin		(4 Surveyinc	35) 789-1365 G, INC.
WELL WELLS - N	Sth Street - D L PAD - PAD INT NBU 921-22	NBU 9: ERFERENCE IICS, NBU	21-22I CE PLAT 921-22I1BS,	.P	CONSU	609 JLTING, LLC	С	DATI	209 NORTH SURVEYED:	.INE NG & LAND 300 WEST - VER	(4 SURVEYINC RNAL, UTAH 84	35) 789-1365 G, INC.
WELL WELLS - N	L PAD - PAD INT NBU 921-22 921-22J4CS	NBU 92 ERFERENCE 11CS, NBU 1, NBU 921-	21-22I CE PLAT 921-22I1BS, 22J1BS,	. <b>P</b>	2155 No	JLTING, LLOrth Main Stre	et	DATI 7-19-	ENGINEERIN 209 NORTH E SURVEYED: -11	INE NG & LAND 300 WEST - VER	(4 SURVEYINC RNAL, UTAH 84 Y: W.W	35) 789-1365 G, INC. 078
WELL WELLS - N NBU NBU 9	Sth Street - D L PAD - PAD INT NBU 921-22	NBU 9: ERFERENCE 11CS, NBU 1, NBU 921- & NBU 92	21-221 CE PLAT 921-2211BS, -22J1BS, 1-22J4AS	.P	2155 Nor Sherida	JLTING, LLOrth Main Streen WY 82801	et	DATI 7-19-	ENGINEERIN 209 NORTH E SURVEYED: -11 E DRAWN:	INE NG & LAND 300 WEST - VER SURVEYED B DRAWN BY:	(4 SURVEYINC RNAL, UTAH 844 IY: W.W C.T.C	35) 789-1365 G, INC. 078
WELL WELLS - N NBU 9 LOCAT	PAD INTINUE PAD 1811	ERFERENCE ITCS, NBU 921- & NBU 921- & NBU 921- ITON 22, TS	21-221 CE PLAT 921-2211BS, -22J1BS, 1-22J4AS 95, R21E,	.P	2155 Nor Sherida Phone 3	JLTING, LLOrth Main Stre	et	DATI 7-19- DATI 8-25-	ENGINEERIN 209 NORTH E SURVEYED: -11 E DRAWN:	INE NG & LAND 300 WEST - VER	(4 SURVEYINC NAL, UTAH 84 IY: W.W C.T.C	35) 789-1365 G, INC. 078



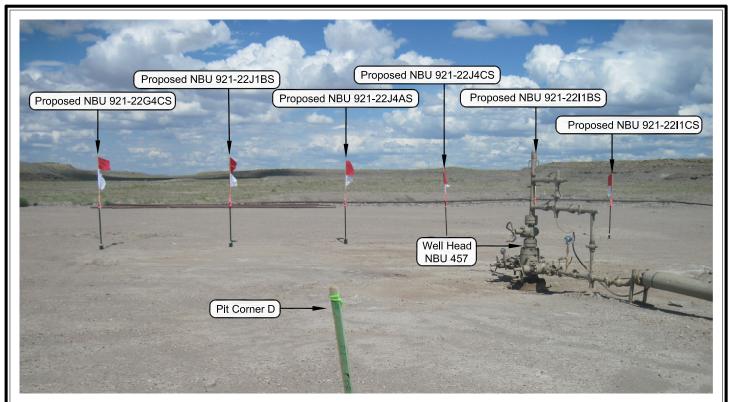


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

**CAMERA ANGLE: NORTHEASTERLY** 



PHOTO VIEW: FROM EXISTING ACCESS ROAD

**CAMERA ANGLE: SOUTHEASTERLY** 

# Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

# WELL PAD - NBU 921-221

**LOCATION PHOTOS** NBU 921-2211CS, NBU 921-2211BS, NBU 921-22J4CS, NBU 921-22J1BS, NBU 921-22G4CS & NBU 921-22J4AS LOCATED IN SECTION 22, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.



## CONSULTING, LLC 2155 North Main Street Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

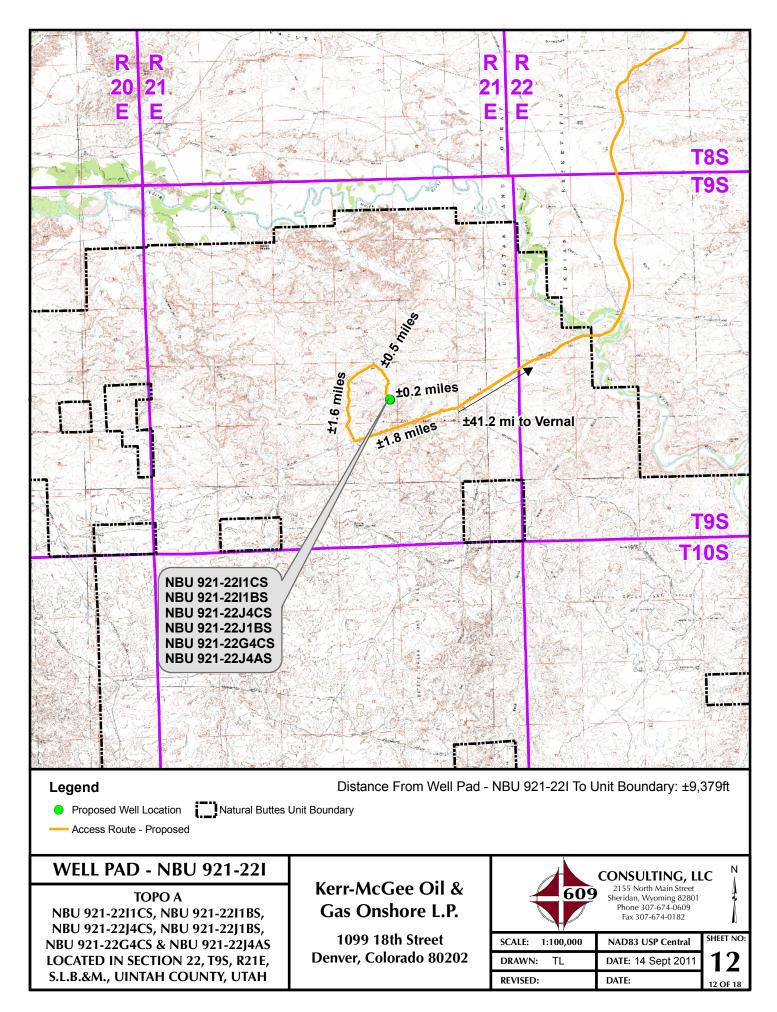
## TIMBERLINE

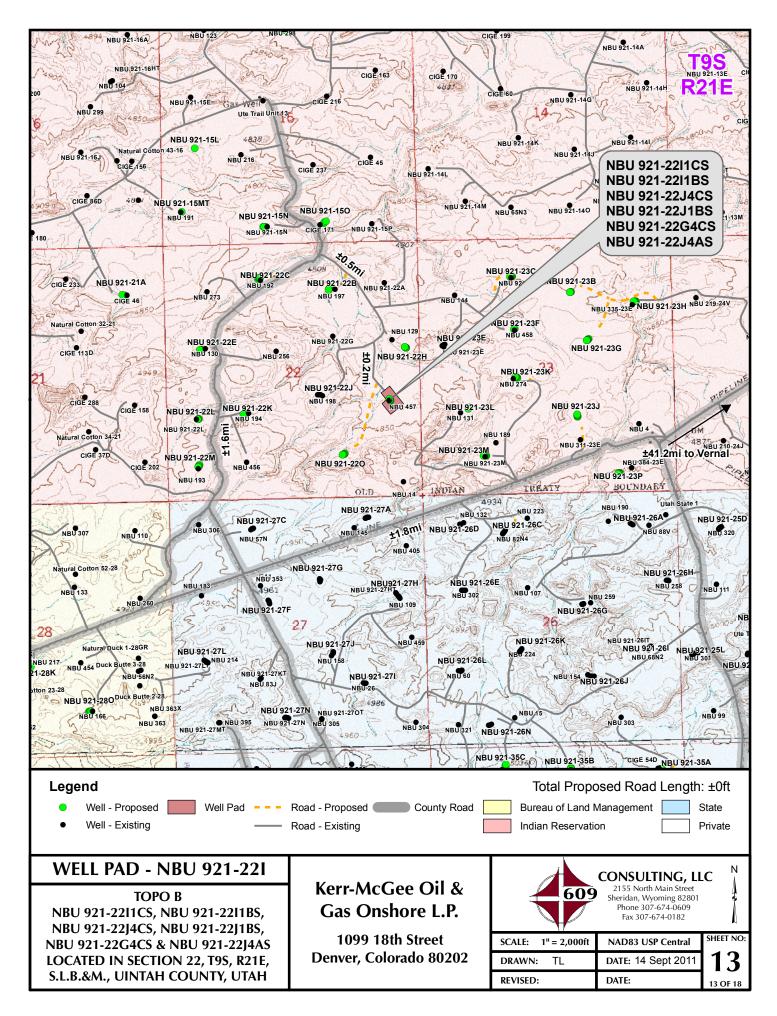
(435) 789-1365

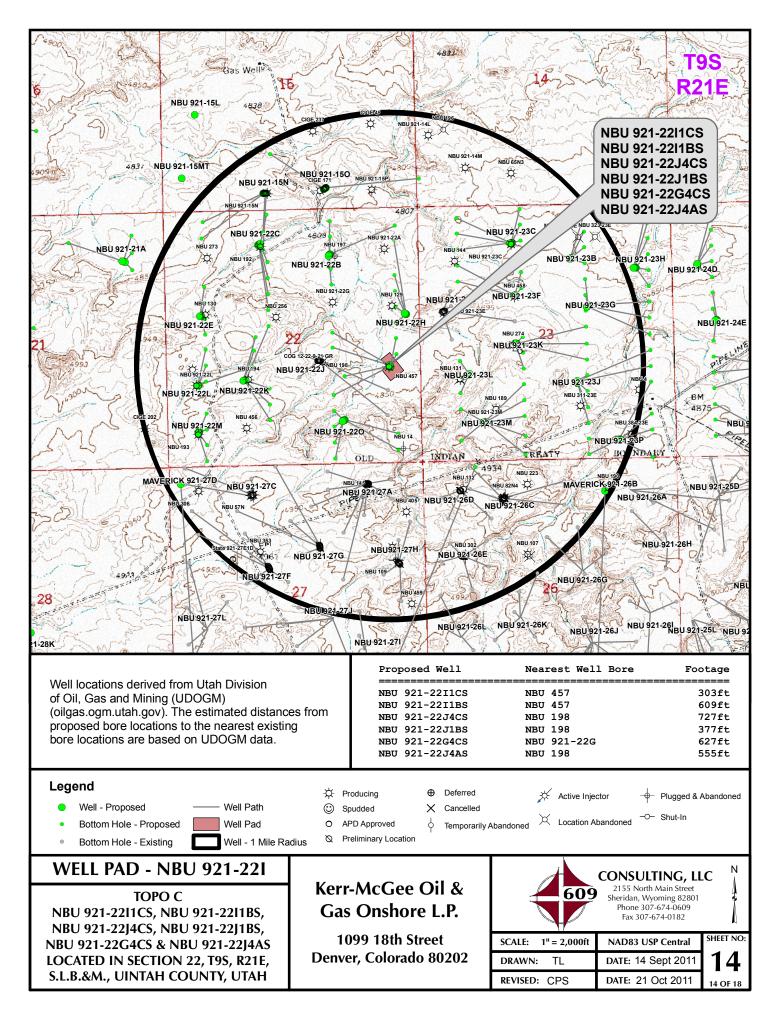
11 OF 18

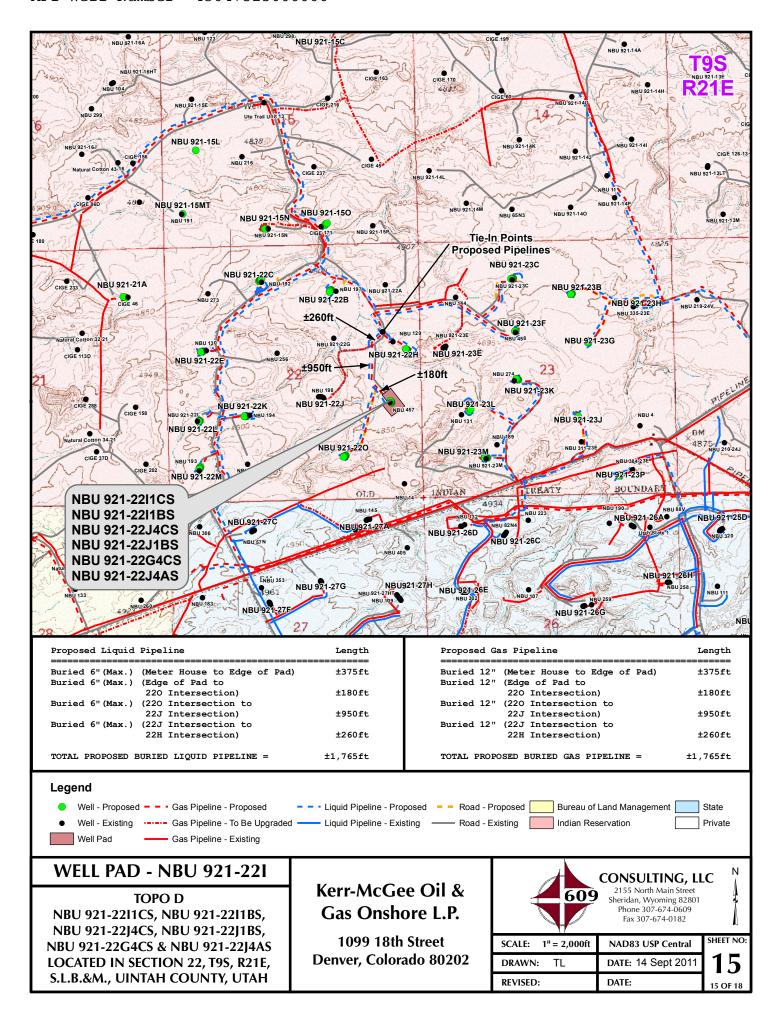
ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

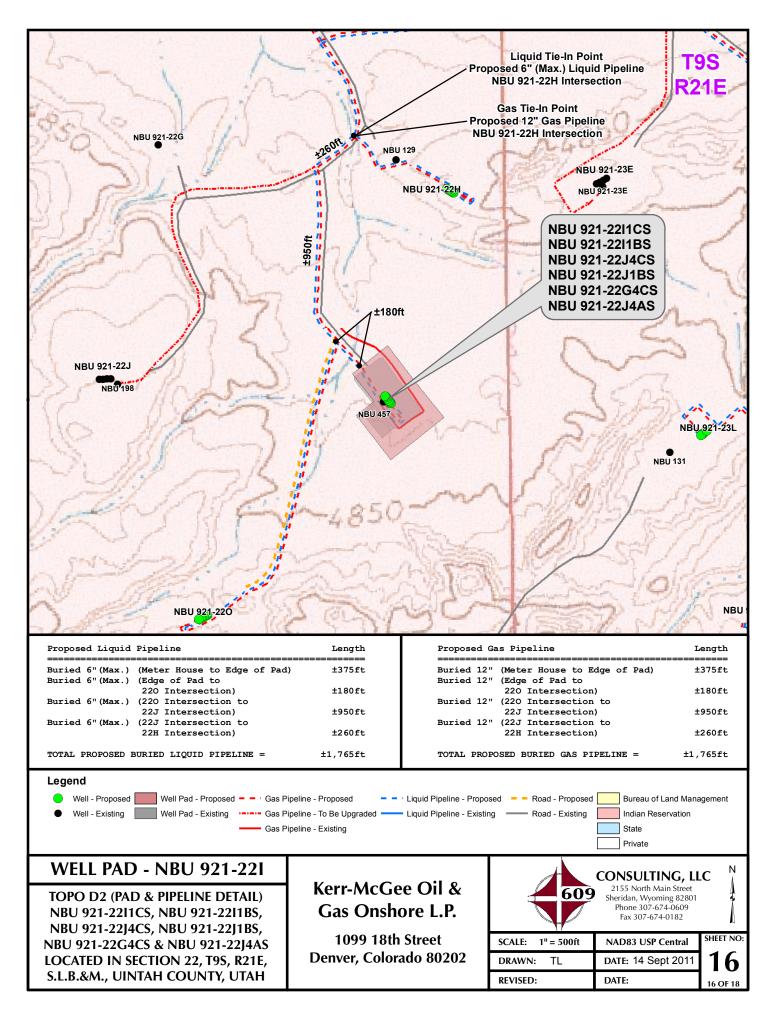
ı	DATE PHOTOS TAKEN: 7-19-11	PHOTOS TAKEN BY: W.W	SHEET NO
ı	DATE DRAWN: 8-25-11	DRAWN BY: C.T.C	11
	Date Last Revised: 10-21-1	1 T.J.R.	11 OF 18

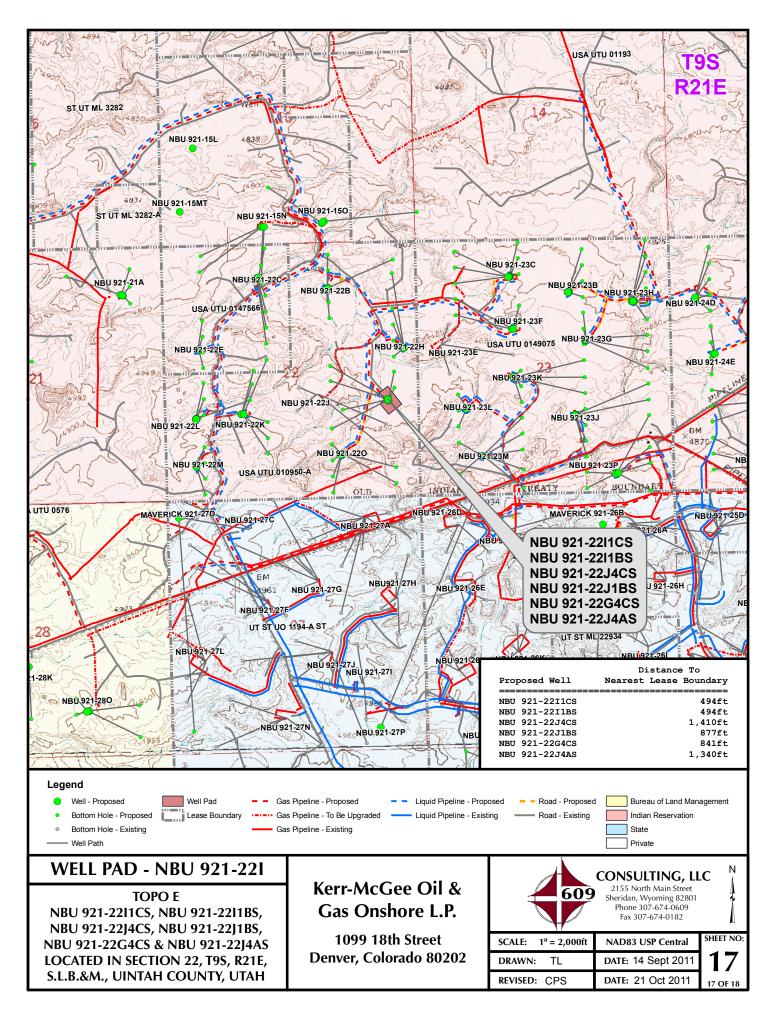












Kerr-McGee Oil & Gas Onshore, LP WELL PAD – NBU 921-22I WELLS – NBU 921-22I1CS, NBU 921-22I1BS, NBU 921-22J4CS, NBU 921-22J1BS, NBU 921-22G4CS & NBU 921-22J4AS Section 22, T9S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 17.7 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly direction along the Class D County Road approximately 1.8 miles to a second Class D County Road approximately 1.6 miles to a service road to the southeast. Exit right and proceed in a southeasterly, then southwesterly direction along the service road approximately 0.5 miles to a second service road to the south. Exit left and proceed in a southerly direction along the second service road approximately 0.2 miles to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 45.3 miles in a southerly direction.

**SHEET 18 OF 18** 

API Well Number: 4304 Project: OUTCAHO UTM (feet), NAD27, Zone 12N

Scientific Drilling

-750

750

1500

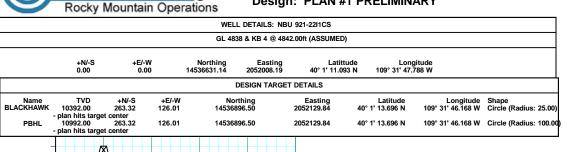
Vertical Section at 25.57° (1500 ft/in)

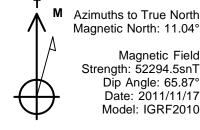
Site: NBU 921-221 PAD Well: NBU 921-22I1CS

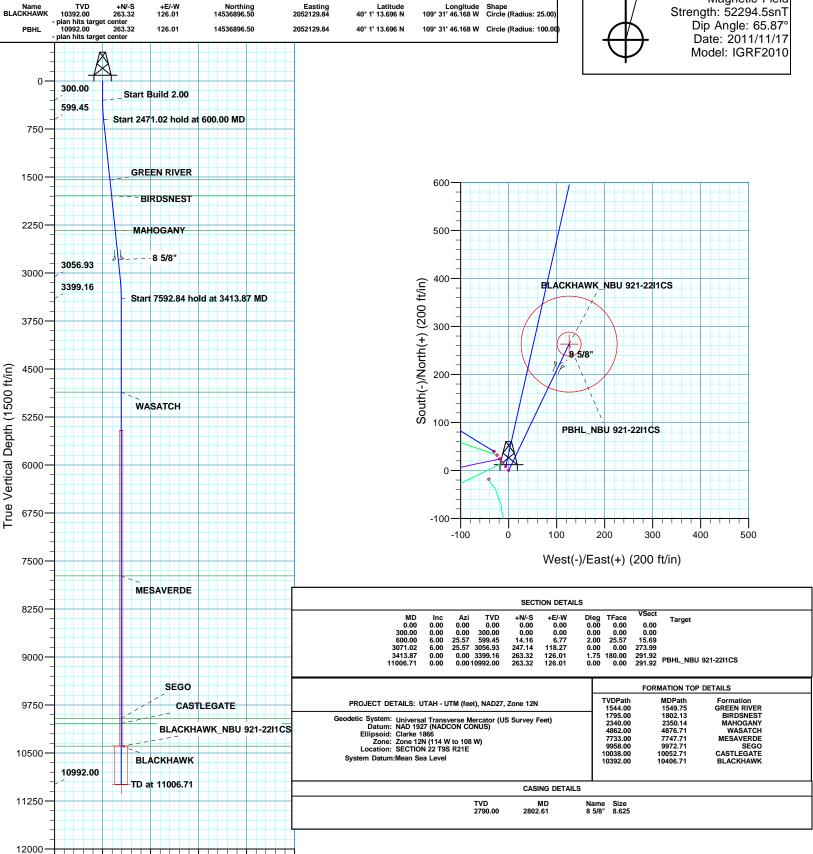
Wellbore: OH

Design: PLAN #1 PRELIMINARY









RECEIVE



# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N NBU 921-22I PAD NBU 921-22I1CS

OH

Plan: PLAN #1 PRELIMINARY

# **Standard Planning Report**

18 November, 2011



RECEIVED: April 24, 2012



# **SDI**Planning Report



Database: EDM5000-RobertS-Local

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22I1CS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 921-22I1CS

GL 4838 & KB 4 @ 4842.00ft (ASSUMED) GL 4838 & KB 4 @ 4842.00ft (ASSUMED)

True

Minimum Curvature

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: Zone 12N (114 W to 108 W)

Mean Sea Level

Site NBU 921-22I PAD, SECTION 22 T9S R21E

Northing: 14,536,670.34 usft Site Position: Latitude: 40° 1' 11.485 N From: Lat/Long Easting: 2,051,977.29 usft Longitude: 109° 31' 48.176 W **Position Uncertainty:** 0.00 ft Slot Radius: **Grid Convergence:** 0.95 13.200 in

System Datum:

Well NBU 921-22I1CS, 1973 FSL 620 FEL

 Well Position
 +N/-S
 -39.70 ft
 Northing:
 14,536,631.14 usft
 Latitude:
 40° 1' 11.093 N

 +E/-W
 30.24 ft
 Easting:
 2,052,008.19 usft
 Longitude:
 109° 31' 47.788 W

Position Uncertainty 0.00 ft Wellhead Elevation: Ground Level: 4,838.00 ft

Wellbore ОН Magnetics **Model Name** Sample Date Declination Dip Angle Field Strength (nT) (°) (°) IGRF2010 2011/11/17 11.04 65.87 52.294

PLAN #1 PRELIMINARY Design Audit Notes: Version: Phase: PLAN Tie On Depth: 0.00 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 25.57

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	6.00	25.57	599.45	14.16	6.77	2.00	2.00	0.00	25.57	
3,071.02	6.00	25.57	3,056.93	247.14	118.27	0.00	0.00	0.00	0.00	
3,413.87	0.00	0.00	3,399.16	263.32	126.01	1.75	-1.75	0.00	180.00	
11,006.71	0.00	0.00	10,992.00	263.32	126.01	0.00	0.00	0.00	0.00 F	PBHL_NBU 921-2211



# **SDI**Planning Report



Database: EDM5000-RobertS-Local

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22I1CS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well NBU 921-22I1CS

GL 4838 & KB 4 @ 4842.00ft (ASSUMED) GL 4838 & KB 4 @ 4842.00ft (ASSUMED)

True

Design: PLAN #1 PRELIMINARY									
Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00 100.00 200.00 300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 100.00 200.00 300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
<b>Start Build 2</b> 400.00	2.00	25.57	399.98	1.57	0.75	1.75	2.00	2.00	0.00
500.00 600.00	4.00 6.00	25.57 25.57	499.84 599.45	6.29 14.16	3.01 6.77	6.98 15.69	2.00 2.00	2.00 2.00	0.00 0.00
Start 2471.02	hold at 600.00	MD							
700.00	6.00	25.57	698.90	23.58	11.29	26.15	0.00	0.00	0.00
800.00	6.00	25.57	798.36	33.01	15.80	36.60	0.00	0.00	0.00
900.00	6.00	25.57	897.81	42.44	20.31	47.05	0.00	0.00	0.00
1,000.00 1,100.00 1,200.00 1,300.00 1,400.00	6.00 6.00 6.00 6.00 6.00	25.57 25.57 25.57 25.57 25.57	997.26 1,096.71 1,196.17 1,295.62 1,395.07	51.87 61.30 70.73 80.16 89.59	24.82 29.34 33.85 38.36 42.87	57.51 67.96 78.41 88.86 99.32	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
1,500.00 1,549.75	6.00 6.00	25.57 25.57 25.57	1,494.52 1,544.00	99.02 103.71	47.38 49.63	109.77 114.97	0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
GREEN RIVE			.,						
1.600.00	6.00	25.57	1,593.97	108.44	51.90	120.22	0.00	0.00	0.00
1,700.00 1,800.00	6.00 6.00	25.57 25.57	1,693.43 1,792.88	117.87 127.30	56.41 60.92	130.67 141.13	0.00 0.00	0.00 0.00	0.00 0.00
1,802.13	6.00	25.57	1,795.00	127.50	61.02	141.35	0.00	0.00	0.00
BIRDSNEST			,						
1,900.00 2,000.00 2,100.00 2,200.00	6.00 6.00 6.00 6.00	25.57 25.57 25.57 25.57	1,892.33 1,991.78 2,091.23 2,190.69	136.73 146.16 155.59 165.02	65.43 69.95 74.46 78.97	151.58 162.03 172.49 182.94	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
2,300.00 2,350.14 <b>MAHOGANY</b>	6.00 6.00	25.57 25.57	2,290.14 2,340.00	174.45 179.17	83.48 85.74	193.39 198.63	0.00 0.00	0.00 0.00	0.00 0.00
2,400.00	6.00	25.57	2,389.59	183.87	87.99	203.84	0.00	0.00	0.00
2,500.00 2,600.00	6.00 6.00	25.57 25.57 25.57	2,489.04 2,588.50	193.30 202.73	92.51 97.02	214.30 224.75	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
2,700.00 2,800.00 2,802.61	6.00 6.00 6.00	25.57 25.57 25.57	2,687.95 2,787.40 2,790.00	212.16 221.59 221.84	101.53 106.04 106.16	235.20 245.66 245.93	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
8 5/8"									
2,900.00 3,000.00	6.00 6.00	25.57 25.57	2,886.85 2,986.30	231.02 240.45	110.55 115.07	256.11 266.56	0.00 0.00	0.00 0.00	0.00 0.00
3,071.02 Start Drop -1	6.00 . <b>75</b>	25.57	3,056.93	247.14	118.27	273.99	0.00	0.00	0.00
3,100.00	5.49	25.57	3,085.77	249.76	119.52	276.89	1.75	-1.75	0.00
3,200.00	3.74	25.57	3,185.44	257.02	123.00	284.94	1.75	-1.75	0.00
3,300.00 3,400.00	1.99 0.24	25.57 25.57	3,285.31 3,385.29	261.54 263.30	125.16 126.00	289.94 291.89	1.75 1.75	-1.75 -1.75	0.00 0.00
3,413.87	0.00	0.00	3,399.16	263.32	126.01	291.92	1.75	-1.75	0.00
·	hold at 3413.87		-,				5	5	2.30
3,500.00	0.00	0.00	3,485.29	263.32	126.01	291.92	0.00	0.00	0.00
3,600.00	0.00	0.00	3,585.29	263.32	126.01	291.92	0.00	0.00	0.00
3,700.00	0.00	0.00	3,685.29	263.32	126.01	291.92	0.00	0.00	0.00
3,800.00	0.00	0.00	3,785.29	263.32	126.01	291.92	0.00	0.00	0.00
			,						



# **SDI**Planning Report



Database: EDM5000-RobertS-Local Company: US ROCKIES REGION P

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N

 Project:
 UTAH - UTM (feet)

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22I1CS

Wellbore: OH

Design: PI AN #1 PRFI IMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 921-22I1CS

GL 4838 & KB 4 @ 4842.00ft (ASSUMED) GL 4838 & KB 4 @ 4842.00ft (ASSUMED)

True

Design:	PLAN #1 PRE	LIMINARY							
Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,900.00	0.00	0.00	3,885.29	263.32	126.01	291.92	0.00	0.00	0.00
4,000.00	0.00	0.00	3,985.29	263.32	126.01	291.92	0.00	0.00	0.00
4,100.00	0.00	0.00	4,085.29	263.32	126.01	291.92	0.00	0.00	0.00
4,200.00	0.00 0.00	0.00	4,185.29	263.32	126.01 126.01	291.92	0.00 0.00	0.00	0.00
4,300.00		0.00	4,285.29	263.32		291.92		0.00	0.00
4,400.00	0.00	0.00	4,385.29	263.32	126.01	291.92	0.00	0.00	0.00
4,500.00	0.00	0.00	4,485.29	263.32	126.01	291.92	0.00	0.00	0.00
4,600.00	0.00	0.00	4,585.29	263.32	126.01	291.92	0.00	0.00	0.00
4,700.00 4,800.00	0.00 0.00	0.00 0.00	4,685.29 4,785.29	263.32 263.32	126.01 126.01	291.92 291.92	0.00 0.00	0.00 0.00	0.00 0.00
4,000.00									
4,876.71	0.00	0.00	4,862.00	263.32	126.01	291.92	0.00	0.00	0.00
WASATCH									
4,900.00	0.00	0.00	4,885.29	263.32	126.01	291.92	0.00	0.00	0.00
5,000.00	0.00	0.00	4,985.29	263.32 263.32	126.01	291.92	0.00	0.00	0.00
5,100.00 5,200.00	0.00 0.00	0.00 0.00	5,085.29 5,185.29	263.32	126.01 126.01	291.92 291.92	0.00 0.00	0.00 0.00	0.00 0.00
5,300.00	0.00	0.00	5,285.29	263.32	126.01	291.92	0.00	0.00	0.00
5,400.00 5,500.00	0.00 0.00	0.00 0.00	5,385.29 5,485.29	263.32 263.32	126.01 126.01	291.92 291.92	0.00 0.00	0.00 0.00	0.00 0.00
5,600.00	0.00	0.00	5,465.29 5,585.29	263.32	126.01	291.92	0.00	0.00	0.00
5,700.00	0.00	0.00	5,685.29	263.32	126.01	291.92	0.00	0.00	0.00
5,800.00	0.00 0.00	0.00	5,785.29	263.32 263.32	126.01	291.92	0.00 0.00	0.00 0.00	0.00
5,900.00 6,000.00	0.00	0.00 0.00	5,885.29 5,985.29	263.32	126.01 126.01	291.92 291.92	0.00	0.00	0.00 0.00
6,100.00	0.00	0.00	6,085.29	263.32	126.01	291.92	0.00	0.00	0.00
6,200.00	0.00	0.00	6,185.29	263.32	126.01	291.92	0.00	0.00	0.00
6,300.00	0.00	0.00	6,285.29	263.32	126.01	291.92	0.00	0.00	0.00
6,400.00	0.00	0.00	6,385.29	263.32	126.01	291.92	0.00	0.00	0.00
6,500.00	0.00	0.00	6,485.29	263.32	126.01	291.92	0.00	0.00	0.00
6,600.00	0.00	0.00	6,585.29	263.32	126.01	291.92	0.00	0.00	0.00
6,700.00	0.00	0.00	6,685.29	263.32	126.01	291.92	0.00	0.00	0.00
6,800.00	0.00	0.00	6,785.29	263.32	126.01	291.92	0.00	0.00	0.00
6,900.00	0.00	0.00	6,885.29	263.32	126.01	291.92	0.00	0.00	0.00
7,000.00	0.00	0.00	6,985.29	263.32	126.01	291.92	0.00	0.00	0.00
7,100.00	0.00	0.00	7,085.29	263.32	126.01	291.92	0.00	0.00	0.00
7,200.00	0.00	0.00	7,185.29	263.32	126.01	291.92	0.00	0.00	0.00
7,300.00	0.00	0.00	7,285.29	263.32	126.01	291.92	0.00	0.00	0.00
7,400.00	0.00	0.00	7,385.29	263.32	126.01	291.92	0.00	0.00	0.00
7,500.00	0.00	0.00	7,485.29	263.32	126.01	291.92	0.00	0.00	0.00
7,600.00 7,700.00	0.00 0.00	0.00 0.00	7,585.29 7,685.29	263.32 263.32	126.01 126.01	291.92 291.92	0.00 0.00	0.00 0.00	0.00 0.00
7,747.71	0.00	0.00	7,733.00	263.32	126.01	291.92	0.00	0.00	0.00
MESAVERDE		0.00	7 705 00	000.00	100.01	004.00	0.00	0.00	0.00
7,800.00 7,900.00	0.00 0.00	0.00 0.00	7,785.29 7,885.29	263.32 263.32	126.01 126.01	291.92 291.92	0.00 0.00	0.00 0.00	0.00 0.00
8,000.00	0.00	0.00	7,005.29 7,985.29	263.32	126.01	291.92	0.00	0.00	0.00
8,100.00	0.00	0.00	8,085.29	263.32	126.01	291.92	0.00	0.00	0.00
8,200.00	0.00	0.00	8,185.29	263.32	126.01	291.92	0.00	0.00	0.00
8,300.00	0.00	0.00	8,185.29 8,285.29	263.32	126.01	291.92 291.92	0.00	0.00	0.00
8,400.00	0.00	0.00	8,385.29	263.32	126.01	291.92	0.00	0.00	0.00
8,500.00	0.00	0.00	8,485.29	263.32	126.01	291.92	0.00	0.00	0.00
8,600.00	0.00	0.00	8,585.29	263.32	126.01	291.92	0.00	0.00	0.00
8,700.00	0.00	0.00	8,685.29	263.32	126.01	291.92	0.00	0.00	0.00
8,800.00	0.00	0.00	8,785.29	263.32	126.01	291.92	0.00	0.00	0.00



# **SDI** Planning Report



Database: EDN Company: US

Project:

EDM5000-RobertS-Local

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22I1CS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 921-22I1CS

GL 4838 & KB 4 @ 4842.00ft (ASSUMED) GL 4838 & KB 4 @ 4842.00ft (ASSUMED)

True

_									
lanned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,900.00 9,000.00 9,100.00	0.00 0.00 0.00	0.00 0.00 0.00	8,885.29 8,985.29 9,085.29	263.32 263.32 263.32	126.01 126.01 126.01	291.92 291.92 291.92	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	9,185.29 9,285.29 9,385.29 9,485.29 9,585.29	263.32 263.32 263.32 263.32 263.32	126.01 126.01 126.01 126.01 126.01	291.92 291.92 291.92 291.92 291.92	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
9,700.00 9,800.00 9,900.00 9,972.71	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	9,685.29 9,785.29 9,885.29 9,958.00	263.32 263.32 263.32 263.32	126.01 126.01 126.01 126.01	291.92 291.92 291.92 291.92	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
<b>SEGO</b> 10,000.00	0.00	0.00	9,985.29	263.32	126.01	291.92	0.00	0.00	0.00
10,052.71	0.00	0.00	10,038.00	263.32	126.01	291.92	0.00	0.00	0.00
10,100.00 10,200.00 10,300.00 10,400.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	10,085.29 10,185.29 10,285.29 10,385.29	263.32 263.32 263.32 263.32	126.01 126.01 126.01 126.01	291.92 291.92 291.92 291.92	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
10,406.71	0.00	0.00	10,392.00	263.32	126.01	291.92	0.00	0.00	0.00
	( - BLACKHAW	_							
10,500.00 10,600.00 10,700.00 10,800.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	10,485.29 10,585.29 10,685.29 10,785.29	263.32 263.32 263.32 263.32	126.01 126.01 126.01 126.01	291.92 291.92 291.92 291.92	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
10,900.00 11,000.00 11,006.71	0.00 0.00 0.00	0.00 0.00 0.00	10,885.29 10,985.29 10,992.00	263.32 263.32 263.32	126.01 126.01 126.01	291.92 291.92 291.92	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
TD at 11006.7	1 - PBHL_NBU	921-22I1CS							

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BLACKHAWK_NBU 921 - plan hits target cent - Circle (radius 25.00		0.00	10,392.00	263.32	126.01	14,536,896.51	2,052,129.84	40° 1' 13.696 N	109° 31' 46.168 W
PBHL_NBU 921-22I1CS - plan hits target cent - Circle (radius 100.0		0.00	10,992.00	263.32	126.01	14,536,896.51	2,052,129.84	40° 1' 13.696 N	109° 31' 46.168 W

Casing Points							
	Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter	
	(ft)	(ft)		Name	(in)	(in)	
	2,802.61	2,790.00	8 5/8"		8.625	11.000	



# **SDI** Planning Report



Database: Company: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N

 Project:
 UTAH - UTM (feet)

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22I1CS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well NBU 921-22I1CS

GL 4838 & KB 4 @ 4842.00ft (ASSUMED) GL 4838 & KB 4 @ 4842.00ft (ASSUMED)

True

tions						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,549.75	1,544.00	GREEN RIVER			
	1,802.13	1,795.00	BIRDSNEST			
	2,350.14	2,340.00	MAHOGANY			
	4,876.71	4,862.00	WASATCH			
	7,747.71	7,733.00	MESAVERDE			
	9,972.71	9,958.00	SEGO			
	10,052.71	10,038.00	CASTLEGATE			
	10,406.71	10,392.00	BLACKHAWK			

Plan Annotations	s				
	Measured	Vertical	Local Coor	dinates	
	Depth	Depth	+N/-S	+E/-W	
	(ft)	(ft)	(ft)	(ft)	Comment
	300.00	300.00	0.00	0.00	Start Build 2.00
	600.00	599.45	14.16	6.77	Start 2471.02 hold at 600.00 MD
	3,071.02	3,056.93	247.14	118.27	Start Drop -1.75
	3,413.87	3,399.16	263.32	126.01	Start 7592.84 hold at 3413.87 MD
	11,006.71	10,992.00	263.32	126.01	TD at 11006.71

NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 1 of 11

# Kerr-McGee Oil & Gas Onshore. L.P.

# NBU 921-22I Pad

NBU 921-22G4CS		
ce: 2013 FSL / 650 FEL	NESE	Lot
HL: 2569 FNL / 1818 FEL	SWNE	Lot
NBU 921-22I1BS		
ce: 1981 FSL / 626 FEL	NESE	Lot
HL: 2569 FSL / 494 FEL	NESE	Lot
NBU 921-22I1CS		
ce: 1973 FSL / 620 FEL	NESE	Lot
HL: 2237 FSL / 494 FEL	NESE	Lot
NBU 921-22J1BS	_	
ce: 2005 FSL / 644 FEL	NESE	Lot
HL: 2405 FSL / 1817 FEL	NWSE	Lot
NBU 921-22J4CS		
1989 FSL / 632 FFL	NESE	Lot
.C. 170713L7 0321LL	INLOL	LUI
HL: 1410 FSL / 1817 FEL	NWSE	Lot
HL: 1410 FSL / 1817 FEL		
	2013 FSL / 650 FEL 2569 FNL / 1818 FEL  NBU 921-2211BS  DE: 1981 FSL / 626 FEL HL: 2569 FSL / 494 FEL  NBU 921-2211CS  DE: 1973 FSL / 620 FEL HL: 2237 FSL / 494 FEL  NBU 921-22J1BS  DE: 2005 FSL / 644 FEL HL: 2405 FSL / 1817 FEL	DEE: 2013 FSL / 650 FEL SWNE    NBU 921-2211BS   NESE

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

An on-site meeting was held on October 3-4, 2011. Present were:

- · Bucky Secakuku (10/4/2011 only) BIA;
- · LeAllen Blackhair, Rainey Longhair Ute Indian Tribe;
- · Kelly Jo Jackson Montgomery Archeological Consultants Inc.;
- Scott Carson Smiling Lake Consulting;
- · John Slaugh, Mitch Batty Timberline Engineering & Land Surveying, Inc.;
- Laura Abrams, Charles Chase, Raleen White, Doyle Holmes, Lovel Young, Sheila Wopsock Kerr-McGee

## A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 2 of 11

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

#### B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BIA.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

No new access road is proposed for this well pad.

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#### C. Location of Existing Wells:

A) Refer to Topo Map C.

#### D. Location of Existing and/or Proposed Facilities:

This pad will expand the existing pad for the NBU 457, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on November 3, 2011. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accommodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

#### GAS GATHERING

Please refer to Topo D2- Pad and Pipeline Detail.

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is  $\pm 1,765$ ' and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

±1,765' (0.3 miles) – Section 22 T9S R21E (SE/4) – On-lease UTU010950A Ute Indian Tribe surface, New 12" buried gas gathering pipeline from the meter to the NBU 921-22H pad intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

### **LIQUID GATHERING**

Please refer to Topo D2- Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 1,765$ ' and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

 $\pm 1,765$ ' (0.3 miles) – Section 22 T9S R21E (SE/4) – On-lease UTU010950A Ute Indian Tribe surface, New 6" buried liquid gathering pipeline from the separator to the NBU 921-22H Pad intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

## **Pipeline Gathering Construction**

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s,) gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' disturbance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent disturbance width is for maintenance and repairs. Cross country permanent disturbance width also are required to be 30ft.

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Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface.

Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, Kerr-McGee or it's successor will consult with the Vernal BIA Office before terminating of the use of the pipeline(s).

### The Anadarko Completions Transportation System (ACTS) information:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is discussed in more detail below. Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

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If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

The collected hydrocarbons will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit.

ACTS will require temporarily laying multiple 6" aluminum water transfer lines on the surface between either existing or refurbished reserve pits. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The temporary ACTS lines will be permitted under a separate cover to the Ute Indian Tribe.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BIA considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BIA.

## E. Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:

Permit # 49-2307	JD Field Services	Green River- Section 15, T2N, R22E
Permit # 49-2321	R.N. Industries	White River- Section 2, T10S, R24E
Permit # 49-2319	R.N. Industries	White River- Various Sources
Permit # 49-2320	R.N. Industries	Green River- Section 33, T8S, R23E

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

#### F. Construction Materials:

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from Tribal lands without prior approval from the BIA. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BIA.

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#### G. Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BIA, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BIA, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc.). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BIA. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BIA.

Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

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For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

## **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E NBU #159 in Sec. 35 T9S R21E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 34 T9S R21E NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 8 of 11

#### H. Ancillary Facilities:

ancillary facilities are

### I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of disturbance will not exceed the maximum disturbance outlined in the attached exhibits.

For the protection of livestock and wildlife, all open pits and cellars will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BIA.

#### J. Plans for Surface Reclamation:

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

#### **Interim Reclamation**

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BIA for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

#### Final Reclamation

Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BIA will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

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After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

Reclamation of roads will be performed at the discretion of the BIA/Tribe. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications as proposed below in "Measures Common to Interim and Final Reclamation".

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BIA/Tribe.

#### **Measures Common to Interim and Final Reclamation**

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box" in order to seed "fluffy" seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The seed mixes will be selected from a list provided by or approved by the BIA/Tribe or a specific seed mix will be proposed by Kerr-McGee to the BIA/Tribe and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain "cheat grass free seed".

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Indian Ricegrass (Nezpar)	3
Sandberg Bluegrass	0.75
Bottlebrush Squirreltail	1
Great Basin Wildrye	0.5
Crested Wheatgrass	1.5
Winterfat	0.25
Shadscale	1.5
Four-wing Saltbrush	0.75
Forage Kochia	0.25
Total	9.5

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

## Weed Control

Noxious weeds will be controlled in akk orihect areas un accordance with all applicable rules and regulations.

NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 10 of 11

#### K. Surface/Mineral Ownership:

Ute Indian Tribe
P.O. Box 70
988 South 7500 East Annex Building
Fort Duschesne, UT 84026
(435) 722-4307

United States of America Bureau of Land Management 170 South 500 East Vernal, UT 84078 (435) 781-4400

#### L. Other Information:

#### **Onsite Specifics:**

- · No Arch monitor during construction required
- Paleo monitor during construction

#### **Cultural and Paleontological Resources**

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BIA.

#### **Resource Reports:**

A Class I literature survey was completed in December, 2011 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 11-406.

A paleontological reconnaissance survey was completed on August 16, 2010 by SWCA Environmental Consultants. For additional details please refer to report UT11-14314-118.

Biological field survey was completed on August 8, 16 and 17, 2011 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-569.

#### **Proposed Action Annual Emissions Tables:**

Table 1: Proposed Action Annual Emissions (tons/year) <sup>1</sup>					
Pollutant	Development	Production	Total		
NOx	3.8	0.12	3.92		
CO	2.2	0.11	2.31		
VOC	0.1	4.9	5		
SO <sub>2</sub>	0.005	0.0043	0.0093		
$PM_{10}$	1.7	0.11	1.81		
PM <sub>2.5</sub>	0.4	0.025	0.425		
Benzene	2.2E-03	0.044	0.046		
Toluene	1.6E-03	0.103	0.105		
Ethylbenzene	3.4E-04	0.005	0.005		
Xylene	1.1E-03	0.076	0.077		
n-Hexane	1.7E-04	0.145	0.145		
Formaldehyde	1.3E-02	8.64E-05	1.31E-02		

<sup>&</sup>lt;sup>1</sup> Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison					
Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory <sup>a</sup> (ton/yr)	to WRAP Phase		
NOx	23.52	16,547	0.14%		
VOC	30	127,495	0.02%		

<sup>&</sup>lt;sup>a</sup> http://www.wrapair.org/forums/ogwg/PhaseIII\_Inventory.html

Uintah Basin Data

NBU 921-22G4CS/ 921-22I1BS/ 921-22I1CS NBU 921-22J1BS/ 921-22J4AS/ 921-22J4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22I Pad Surface Use Plan of Operations 11 of 11

## M. Lessee's or Operators' Representative & Certification:

Laura Abrams Regulatory Analyst II Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6356 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Laura Abrams

December 19, 2011

Date



Kerr-McGee Oil & Gas Onshore LP PO Box 173779 DENVER, CO 80217-3779

October 10, 2011

Ms. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11

NBU 921-22I1CS

T9S-R21E

Section 22 NESE (Surface and Bottom Hole)

Surface: 1973' FSL, 620' FEL Bottom Hole: 2237' FSL, 494' FEL

Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 921-22I1CS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing roads and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

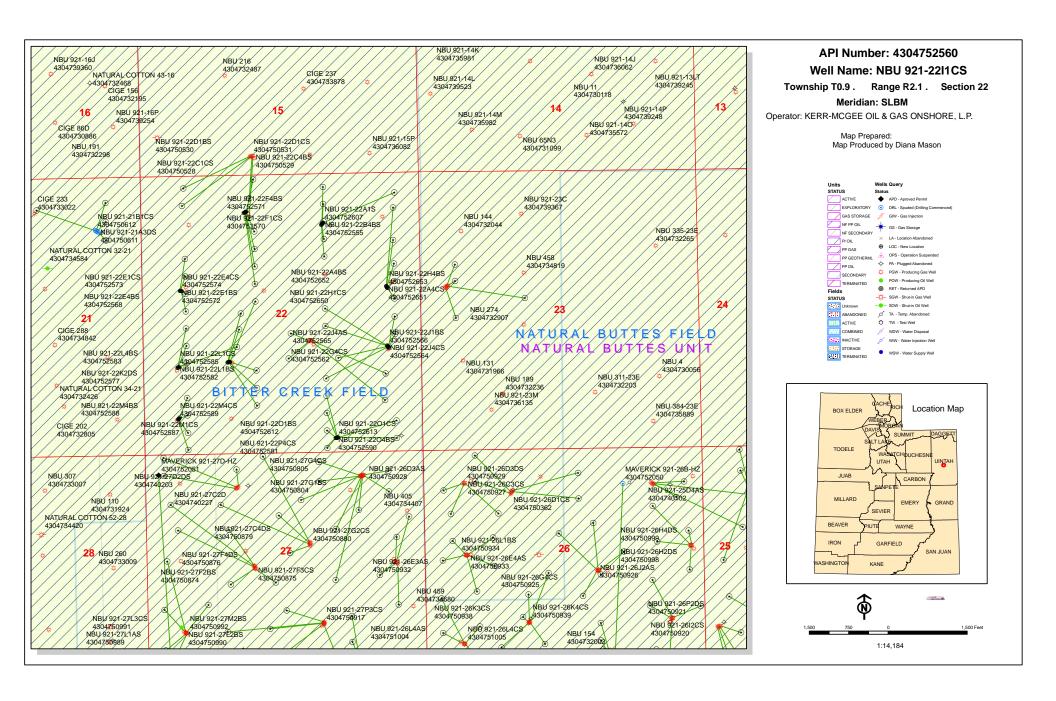
Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joe Matney Sr. Staff Landman

Joe Matiney



# United States Department of the Interior

# BUREAU OF LAND MANAGEMENT

Utah State Office P.O. Box 45155 Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

May 14, 2012

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2012 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2012 within the Natural Buttes Unit, Uintah County, Utah.

BHL Sec 22 T09S R21E 0579 FNL 1819 FEL

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

WELL PAD - NBU 921-22K 43-047-52550 NBU 921-22K2AS Sec 22 T09S R21E 1748 FSL 1611 FWL BHL Sec 22 T09S R21E 2366 FSL 1832 FWL 43-047-52551 NBU 921-22K4CS Sec 22 T09S R21E 1753 FSL 1640 FWL BHL Sec 22 T09S R21E 1576 FSL 2147 FWL 43-047-52552 NBU 921-22N1BS Sec 22 T09S R21E 1751 FSL 1630 FWL BHL Sec 22 T09S R21E 1244 FSL 2147 FWL 43-047-52575 NBU 921-22F4CS Sec 22 T09S R21E 1755 FSL 1650 FWL BHL Sec 22 T09S R21E 2406 FNL 2148 FWL 43-047-52576 NBU 921-22F3DS Sec 22 T09S R21E 1747 FSL 1601 FWL BHL Sec 22 T09S R21E 2634 FNL 1870 FWL 43-047-52580 NBU 921-22N1CS Sec 22 T09S R21E 1750 FSL 1620 FWL BHL Sec 22 T09S R21E 0912 FSL 2146 FWL WELL PAD - NBU 921-22B 43-047-52553 NBU 921-22G1CS Sec 22 T09S R21E 0973 FNL 1861 FEL BHL Sec 22 T09S R21E 1574 FNL 1818 FEL 43-047-52554 NBU 921-22B4CS Sec 22 T09S R21E 0965 FNL 1854 FEL BHL Sec 22 T09S R21E 1243 FNL 1819 FEL 43-047-52555 NBU 921-22B4BS Sec 22 T09S R21E 0935 FNL 1828 FEL BHL Sec 22 T09S R21E 0911 FNL 1819 FEL 43-047-52556 NBU 921-22B1CS Sec 22 T09S R21E 0950 FNL 1841 FEL

RECEIVED: May 15, 2012

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

43-047-52557 NBU 921-22B1BS Sec 22 T09S R21E 0958 FNL 1848 FEL

BHL Sec 22 T09S R21E 0249 FNL 1819 FEL

43-047-52607 NBU 921-22A1S Sec 22 T09S R21E 0943 FNL 1835 FEL

BHL Sec 22 T09S R21E 0386 FNL 0464 FEL

WELL PAD - NBU 921-22C

43-047-52558 NBU 921-22C1BS Sec 22 T09S R21E 0691 FNL 2010 FWL

BHL Sec 22 T09S R21E 0085 FNL 2150 FWL

43-047-52567 NBU 921-22C4CS Sec 22 T09S R21E 0696 FNL 2001 FWL

BHL Sec 22 T09S R21E 1078 FNL 2149 FWL

43-047-52569 NBU 921-22F1BS Sec 22 T09S R21E 0701 FNL 1993 FWL

BHL Sec 22 T09S R21E 1410 FNL 2149 FWL

43-047-52570 NBU 921-22F1CS Sec 22 T09S R21E 0707 FNL 1984 FWL

BHL Sec 22 T09S R21E 1742 FNL 2149 FWL

43-047-52571 NBU 921-22F4BS Sec 22 T09S R21E 0712 FNL 1976 FWL

BHL Sec 22 T09S R21E 2073 FNL 2149 FWL

WELL PAD - NBU 921-22I

43-047-52560 NBU 921-22I1CS Sec 22 T09S R21E 1973 FSL 0620 FEL

BHL Sec 22 T09S R21E 2237 FSL 0494 FEL

43-047-52561 NBU 921-22I1BS Sec 22 T09S R21E 1981 FSL 0626 FEL

BHL Sec 22 T09S R21E 2569 FSL 0494 FEL

43-047-52562 NBU 921-22G4CS Sec 22 T09S R21E 2013 FSL 0650 FEL

BHL Sec 22 T09S R21E 2569 FNL 1818 FEL

43-047-52564 NBU 921-22J4CS Sec 22 T09S R21E 1989 FSL 0632 FEL

BHL Sec 22 T09S R21E 1410 FSL 1817 FEL

43-047-52565 NBU 921-22J4AS Sec 22 T09S R21E 1997 FSL 0638 FEL

BHL Sec 22 T09S R21E 1796 FSL 1580 FEL

43-047-52566 NBU 921-22J1BS Sec 22 T09S R21E 2005 FSL 0644 FEL

BHL Sec 22 T09S R21E 2405 FSL 1817 FEL

WELL PAD - NBU 921-22H

43-047-52563 NBU 921-22H4CS Sec 22 T09S R21E 2196 FNL 0627 FEL

BHL Sec 22 T09S R21E 2403 FNL 0494 FEL

43-047-52650 NBU 921-22H1CS Sec 22 T09S R21E 2179 FNL 0637 FEL

BHL Sec 22 T09S R21E 1740 FNL 0494 FEL

43-047-52651 NBU 921-22A4CS Sec 22 T09S R21E 2170 FNL 0642 FEL

BHL Sec 22 T09S R21E 1288 FNL 0504 FEL

43-047-52652 NBU 921-22A4BS Sec 22 T09S R21E 2162 FNL 0647 FEL

BHL Sec 22 T09S R21E 0670 FNL 0494 FEL

43-047-52653 NBU 921-22H4BS Sec 22 T09S R21E 2188 FNL 0632 FEL

BHL Sec 22 T09S R21E 2071 FNL 0494 FEL

Page 2

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

#### WELL PAD - NBU 921-22E

43-047-52568 NBU 921-22E4BS Sec 22 T09S R21E 2179 FNL 0750 FWL

BHL Sec 22 T09S R21E 2239 FNL 0824 FWL

43-047-52572 NBU 921-22E1BS Sec 22 T09S R21E 2179 FNL 0720 FWL

BHL Sec 22 T09S R21E 1576 FNL 0824 FWL

43-047-52573 NBU 921-22E1CS Sec 22 T09S R21E 2179 FNL 0730 FWL

BHL Sec 22 T09S R21E 1908 FNL 0824 FWL

43-047-52574 NBU 921-22E4CS Sec 22 T09S R21E 2179 FNL 0740 FWL

BHL Sec 22 T09S R21E 2572 FNL 0824 FWL

# WELL PAD - NBU 921-22L

43-047-52577 NBU 921-22K2DS Sec 22 T09S R21E 1668 FSL 0666 FWL

BHL Sec 22 T09S R21E 2038 FSL 1784 FWL

43-047-52582 NBU 921-22L1BS Sec 22 T09S R21E 1660 FSL 0648 FWL

BHL Sec 22 T09S R21E 2408 FSL 0824 FWL

43-047-52583 NBU 921-22L4BS Sec 22 T09S R21E 1672 FSL 0675 FWL

BHL Sec 22 T09S R21E 1744 FSL 0824 FWL

43-047-52585 NBU 921-22L1CS Sec 22 T09S R21E 1664 FSL 0657 FWL

BHL Sec 22 T09S R21E 2076 FSL 0824 FWL

#### WELL PAD - NBU 921-220

43-047-52578 NBU 921-2204CS Sec 22 T09S R21E 0269 FSL 1655 FEL

BHL Sec 22 T09S R21E 0086 FSL 1816 FEL

43-047-52579 NBU 921-22P4BS Sec 22 T09S R21E 0280 FSL 1606 FEL

BHL Sec 22 T09S R21E 0581 FSL 0494 FEL

43-047-52581 NBU 921-22P4CS Sec 22 T09S R21E 0278 FSL 1616 FEL

BHL Sec 22 T09S R21E 0251 FSL 0494 FEL

43-047-52590 NBU 921-2204BS Sec 22 T09S R21E 0271 FSL 1645 FEL

BHL Sec 22 T09S R21E 0416 FSL 1816 FEL

43-047-52612 NBU 921-2201BS Sec 22 T09S R21E 0276 FSL 1625 FEL

BHL Sec 22 T09S R21E 1079 FSL 1817 FEL

43-047-52613 NBU 921-2201CS Sec 22 T09S R21E 0274 FSL 1635 FEL

BHL Sec 22 T09S R21E 0747 FSL 1816 FEL

## WELL PAD - NBU 921-22M

43-047-52586 NBU 921-22M1BS Sec 22 T09S R21E 0695 FSL 0660 FWL

BHL Sec 22 T09S R21E 1080 FSL 0823 FWL

43-047-52587 NBU 921-22M1CS Sec 22 T09S R21E 0686 FSL 0654 FWL

BHL Sec 22 T09S R21E 0748 FSL 0823 FWL

43-047-52588 NBU 921-22M4BS Sec 22 T09S R21E 0678 FSL 0649 FWL

BHL Sec 22 T09S R21E 0416 FSL 0823 FWL

43-047-52589 NBU 921-22M4CS Sec 22 T09S R21E 0670 FSL 6043 FWL

BHL Sec 22 T09S R21E 0086 FSL 0823 FWL

Page 3

Page 4

This office has no objection to permitting the wells at this time.

Michael L. Coulthard

Digitally signed by Michael L Coulthard

Disc.n=Michael L. Coulthard, o=Bureau of Land Management,
ou=Branch of Minerals, email=Michael\_Coulthard@blm.gov, c=US
Date: 2012.05.15 07:17:01 -06'00'

bcc: File - Natural Buttes Unit Division of Oil Gas and Mining Central Files Agr. Sec. Chron Fluid Chron

MCoulthard:mc:5-14-12

# **WORKSHEET** APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 4/27/2012 API NO. ASSIGNED: 43047525600000

WELL NAME: NBU 921-22I1CS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) PHONE NUMBER: 720 929-6356

**CONTACT:** Laura Abrams

PROPOSED LOCATION: NESE 22 090S 210E **Permit Tech Review:** 

> **SURFACE**: 1973 FSL 0620 FEL **Engineering Review:**

> **BOTTOM: 2237 FSL 0494 FEL Geology Review:**

**COUNTY: UINTAH** 

**LATITUDE**: 40.01966 LONGITUDE: -109.53059 **UTM SURF EASTINGS: 625395.00** NORTHINGS: 4430974.00

FIELD NAME: NATURAL BUTTES LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU 010950-A PROPOSED PRODUCING FORMATION(S): BLACKHAWK

SURFACE OWNER: 2 - Indian **COALBED METHANE: NO** 

**RECEIVED AND/OR REVIEWED: LOCATION AND SITING:** ✓ PLAT R649-2-3.

Unit: NATURAL BUTTES Bond: FEDERAL - WYB000291

**Potash** R649-3-2. General

Oil Shale 190-5

Oil Shale 190-3 R649-3-3. Exception

Oil Shale 190-13 **Drilling Unit** 

Board Cause No: Cause 173-14 Water Permit: 43-8496

Effective Date: 12/2/1999 **RDCC Review:** 

Siting: Suspends General Siting Fee Surface Agreement

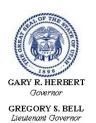
✓ Intent to Commingle R649-3-11. Directional Drill

**Commingling Approved** 

Comments: Presite Completed

Stipulations:

3 - Commingling - ddoucet 4 - Federal Approval - dmason 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

# Permit To Drill

\*\*\*\*\*\*

Well Name: NBU 921-22I1CS API Well Number: 43047525600000 Lease Number: UTU 010950-A

Surface Owner: INDIAN Approval Date: 5/30/2012

# Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

# Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the BLACKHAWK Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

# **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

# **Commingle:**

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

# General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

# **Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil

shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

# **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available)

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

# Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
  - Requests to Change Plans (Form 9) due prior to implementation
  - Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
  - Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

Approved By:

For John Rogers Associate Director, Oil & Gas Form 3160-3

**UNITED STATES GEPARTMENT OF THE INTERIOR** BUREAU OF LAND MANAGEMENT

**JAN 10 2012** 

FORM APPROVED OMB No. 1004-0136 Expires July 31, 2010

J-	GASS	'	DIANCEDALAL	1 100 A 1 1
a of OA	(PPLICATION FOR PERMIT	TO DRILL OR	RFMAFKINAL	.UIAH
O/4"				,

5. Lease Serial No. UTU010950A

7.	If Unit or CA	Agreement,	Name a	and No.

6. If Indian, Allottee or Tribe Name

	The state of the s	Į.	
1a. Type of Work: ☑ DRILL ☐ REENTER		7. If Unit or CA Agreement, Name UTU63047A	and No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Oth	23 Shighe Deite   Matterple Zone	8. Lease Name and Well No. NBU 921-2211CS	
KERR MCGEE OIL&GAS ONSHOREMAIPLaura.A	LAURA ABRAMS brams@anadarko.com	9. API Well No. 43.047.52560	<del></del>
3a. Address PO BOX 173779 DENVER, CO 80202-3779	3b. Phone No. (include area code) Ph: 720-929-6356 Fx: 720-929-7356	10. Field and Pool, or Exploratory NATURAL BUTTES	
4. Location of Well (Report location clearly and in accorda	nce with any State requirements.*)	11. Sec., T., R., M., or Blk. and Sur	vey or Area
At surface NESE 1973FSL 620FEL 40	0.019713 N Lat, 109.530629 W Lon	Sec 22 T9S R21E Mer SLI	
At proposed prod. zone NESE 2237FSL 494FEL 40			
<ol> <li>Distance in miles and direction from nearest town or post of APPROXIMATELY 45.3 MILES SOUTH OF VER</li> </ol>	office* RNAL, UT	12. County or Parish UINTAH	13. State UT
<ol> <li>Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)</li> </ol>	16. No. of Acres in Lease	17. Spacing Unit dedicated to this v	vell
494'	800.00		
<ol> <li>Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.</li> </ol>	19. Proposed Depth	20. BLM/BIA Bond No. on file	
303'	11007 MD 10992 TVD	WYB000291	
21. Elevations (Show whether DF, KB, RT, GL, etc. 4838 GL	22. Approximate date work will start 06/30/2012	23. Estimated duration 60-90 DAYS	· · · · · · · · · · · · · · · · · · ·

# 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- 1. Well plat certified by a registered surveyor.
- 2. A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) LAURA ABRAMS Ph: 720-929-6356	Date 12/20/2011
Title REGULATORY ANALYST II		
Approved by (Signature)	Name (Printed/Typed)  Jerry Kenczka	DJUN 1 2 201
Title Assistant Field Manager Lands & Mineral Resources	VERNAL FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #126288 verified by the BLM Well Information System For KERR MCGEE OIL&GAS ONSHORE, LP, sent to the Vernal

**NOTICE OF APPROVAL** 

CONDITIONS OF APPROVAL ATTACHED

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

12RRH1309AE

NO NOS



# UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT VERNAL FIELD OFFICE** 170 South 500 East

**VERNAL, UT 84078** 

(435) 781-4400



# CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:	Kerr McGee Oil & Gas Onshore LP	Location:	NESE, Sec.22,T9S R21E
Well No:	NBU 921-22I1CS	Lease No:	UTU-010950A
API No:	43-047-52560	Agreement:	Natural Buttes

**OFFICE NUMBER:** 

(435) 781-4400

**OFFICE FAX NUMBER:** 

(435) 781-3420

# A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.

# **NOTIFICATION REQUIREMENTS**

Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	-	The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.
Construction Completion (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	-	Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig.
Spud Notice (Notify BLM Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:blm.ut_vn_opreport@blm.gov">blm.ut_vn_opreport@blm.gov</a>
BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify BLM Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.



Page 3 of 7 Well: NBU 921-22I1CS 6/6/2012

# DOWNHOLE PROGRAM CONDITIONS OF APPROVAL (COAs)

# SITE SPECIFIC DOWNHOLE COAs:

Gamma ray Log shall be run from Total Depth to Surface.

# Variances Granted:

# Air Drilling

- Properly lubricated and maintained rotating head. Variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore. Variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for truck/trailer mounted air compressors located 40'from the well bore.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for the kill medium and will utilize a skid pump near the reserve pit to supply the water to the well bore if necessary.
- Automatic igniter. Variance granted for igniter due to there being no productive formations encountered while air drilling.
- FIT Test. Variance granted due to well known geology and the problems that can occur with the FIT test.

Page 4 of 7 Well: NBU 921-22I1CS 6/6/2012

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

# DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and <u>NOT</u> by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- Cement baskets shall not be run on surface casing.
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.

Page 5 of 7 Well: NBU 921-22I1CS 6/6/2012

- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well in LAS format to BLM\_UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

Page 6 of 7 Well: NBU 921-22I1CS

# 6/6/2012

# **OPERATING REQUIREMENT REMINDERS:**

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - o Operator name, address, and telephone number.
  - Well name and number.
  - o Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - o Unit agreement and/or participating area name and number, if applicable.
  - o Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if

Page 7 of 7 Well: NBU 921-22I1CS 6/6/2012

performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field
  Office Petroleum Engineers will be provided with a date and time for the initial meter calibration
  and all future meter proving schedules. A copy of the meter calibration reports shall be
  submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API
  standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All
  measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted
  to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs
  first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be
  adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively
  sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover
  equipment shall be removed from a well to be placed in a suspended status without prior
  approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30
  days, prior approval of the BLM Vernal Field Office shall be obtained and notification given
  before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

Sundry Number: 35455 API Well Number: 43047525600000

	STATE OF UTAH		FORM 9
ı	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MINI		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A
SUNDR	RY NOTICES AND REPORTS O	N WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In
	posals to drill new wells, significantly de reenter plugged wells, or to drill horizont n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-2211CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047525600000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1973 FSL 0620 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 2	HIP, RANGE, MERIDIAN: 2 Township: 09.0S Range: 21.0E Meridia	n: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
✓ SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud: 3/5/2013	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
_	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
42 DESCRIPE PROPOSED OR	COMPLETED OPERATIONS. Clearly show all	L nortinent details including detac	<u> </u>
THE WELL SPUD O RIG. DRILLED SCHEDULE 10 CONI ANTICIPATED SU	IN MARCH 5, 2013 AT 07:30. M 20" CONDUCTOR HOLE TO 4 DUCTOR PIPE. CEMENT WITH IRFACE RIG SPUD DATE ON M CEMENT MARCH 17, 2013 AT	IIRU TRIPLE A BUCKET 0'. RAN 14" 36.7# 28 SACKS READY MIX. IARCH 16, 2013 AND	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY March 08, 2013
NAME (PLEASE PRINT)	PHONE NUMBE		
Lindsey Frazier SIGNATURE	720 929-6857	Regulatory Analyst II  DATE	
N/A		3/8/2013	

# STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

# **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

P.O. Box 173779

city DENVER

state CO zip 80217

Phone Number: (720) 929-6857

#### Well 1

API Number	1304752560 NBU 921-22I1CS NESE	Sec	Twp	Rng	County	
4304752560		NESE	22	98	21E	
Action Code		_	Spud Date 3/5/2013			ty Assignment fective Date
В	99999	2900			311312013	

MIRU TRIPLE A BUCKET RIG.

SPUD WELL LOCATION ON March 5, 2013 AT 07:30 HRS.

# Well 2

API Number	Well	Well Name		Sec	Twp	Rng	County
4304752561 NBU 921-22I1B			NESE	22	98	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			ty Assignment	
B	99999	2900	3/5/2013		31	13/2013	

MIRU TRIPLE A BUCKET RIG.

SPUD WELL LOCATION ON March 5, 2013 AT 11:00 HRS.

# Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County	
4304752564	NBU 921-22J4CS		NESE	22	98	21E	UINTAH	
Action Code	Current Entity Number	New Entity Number	s	Spud Date		Entity Assignment Effective Date		
B	99999	2900	,	3/5/201:	3	3113	312013	

Comments:

MIRU TRIPLE A BUCKET RIG.

SPUD WELL LOCATION ON March 5, 2013 AT 14:00 HRS.

# **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- C Re-assign well from one existing entity to a new entity
   D Re-assign well from one existing entity to a new entity
- E Other (Explain in 'comments' section) MAR 1 1 2013

# Lindsey Frazier

Name (Please Print)

Signature

REGULATORY ANALYST II

3/8/2013

Title

Date

Sundry Number: 37422 API Well Number: 43047525600000

	STATE OF UTAH			FORM 9
ı	DEPARTMENT OF NATURAL RESOUF DIVISION OF OIL, GAS, AND M		3	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In			
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES			
1. TYPE OF WELL Gas Well				8. WELL NAME and NUMBER: NBU 921-2211CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			9. API NUMBER: 43047525600000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	9. FIELD and POOL or WILDCAT: 5NATURAL BUTTES			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1973 FSL 0620 FEL	COUNTY: UINTAH			
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 2	STATE: UTAH			
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE N	ATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION			TYPE OF ACTION	
	ACIDIZE		ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS		CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	□ F	RACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	F	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	□ F	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR		/ENT OR FLARE	WATER DISPOSAL
✓ DRILLING REPORT Report Date:	WATER SHUTOFF		SI TA STATUS EXTENSION	APD EXTENSION
5/3/2013			STA STATUS EXTENSION	
	WILDCAT WELL DETERMINATION		OTHER	OTHER:
	COMPLETED OPERATIONS. Clearly shown of the month of April 2013.	-	_	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY May 03, 2013
NAME (PLEASE PRINT)	PHONE NUN	IBER	TITLE  Regulartory Analyst	
Jaime Scharnowske	720 929-6304		Regulartory Analyst	
SIGNATURE N/A			<b>DATE</b> 5/3/2013	

# State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# HP 318 Submitted By HARMON COCKRELL Phone Number 435-828-0988/1544 Well Name/Number NBU 921-22I1CS Qtr/Qtr NE/SE Section 22 Township 9S Range 21E Lease Serial Number <u>UTU 010950-A</u> API Number 4304752560 <u>Casing</u> – Time casing run starts, not cementing times. **Production Casing** Other Date/Time \_\_\_\_\_ AM \_\_ PM \_\_ BOPE Initial BOPE test at surface casing point Other Date/Time <u>05/16/2013</u> 23:00 AM ☐ PM ☒ RECEIVED Rig Move MAY 1 5 2013 Location To: \_\_\_\_\_ DIV. OF OIL, GAS & MINING \_\_\_\_ AM PM Date/Time \_\_\_\_\_

Remarks <u>TIME IS ESTIMATED</u>

Sundry Number: 38454 API Well Number: 43047525600000

	STATE OF UTAH				FORM 9
ı	DEPARTMENT OF NATURAL RESOUR DIVISION OF OIL, GAS, AND M		3	5.LEASE DESIGNATION AND UTU 010950-A	SERIAL NUMBER:
SUNDR	6. IF INDIAN, ALLOTTEE OR Ute In	TRIBE NAME:			
	posals to drill new wells, significantlerenter plugged wells, or to drill horiznersuch proposals.			7.UNIT or CA AGREEMENT N NATURAL BUTTES	IAME:
1. TYPE OF WELL Gas Well				8. WELL NAME and NUMBER NBU 921-2211CS	:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			9. API NUMBER: 43047525600000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 802		NE NUMBER: 79 720 929-6	9. FIELD and POOL or WILDO 5NATERAL BUTTES	CAT:
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1973 FSL 0620 FEL				COUNTY: UINTAH	
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 2	IIP, RANGE, MERIDIAN: 2 Township: 09.0S Range: 21.0E Meri	dian: S	5	STATE: UTAH	
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE N	ATURE OF NOTICE, REPOR	T, OR OTHER DATA	
TYPE OF SUBMISSION			TYPE OF ACTION		
	ACIDIZE		ALTER CASING	CASING REPAIR	
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS		CHANGE TUBING	CHANGE WELL NAME	
	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE	
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	☐ F	FRACTURE TREAT	☐ NEW CONSTRUCTION	
	OPERATOR CHANGE	F	PLUG AND ABANDON	PLUG BACK	
SPUD REPORT	PRODUCTION START OR RESUME	F	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT	FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON	
	TUBING REPAIR		/ENT OR FLARE	WATER DISPOSAL	
✓ DRILLING REPORT Report Date:	WATER SHUTOFF		SI TA STATUS EXTENSION	APD EXTENSION	
6/3/2013	WILDCAT WELL DETERMINATION			OTHER:	
			DIHER	OTHER:	
	COMPLETED OPERATIONS. Clearly show			Accepted by th Utah Division o Oil, Gas and Min FOR RECORE June 10, 2013	of ing ONLY
NAME (PLEASE PRINT) Matthew P Wold	<b>PHONE NUM</b> 720 929-6993	BER	TITLE Regulatory Analyst I		
SIGNATURE N/A			<b>DATE</b> 6/3/2013		

Sundry Number: 39773 API Well Number: 43047525600000

	STATE OF UTAH		FORM 9				
ι	DEPARTMENT OF NATURAL RESOUR DIVISION OF OIL, GAS, AND MI		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A				
SUNDR	Y NOTICES AND REPORTS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In					
	deepen existing wells below ontal laterals. Use APPLICATION	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES					
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-2211CS				
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047525600000				
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 8021	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES					
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1973 FSL 0620 FEL	COUNTY: UINTAH						
	1973 FSL 0620 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 22 Township: 09.0S Range: 21.0E Meridian: S						
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA				
TYPE OF SUBMISSION		TYPE OF ACTION					
	ACIDIZE	ALTER CASING	CASING REPAIR				
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME				
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE				
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION				
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK				
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION				
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON				
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL				
✓ DRILLING REPORT	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION				
Report Date: 7/5/2013		☐ SITA STATUS EXTENSION					
	WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:				
No actitivy for the i	COMPLETED OPERATIONS. Clearly show month of June 2013. Well T	D at Drilled to 9,974 ft.	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY July 08, 2013				
NAME (PLEASE PRINT) Teena Paulo	<b>PHONE NUM</b> 720 929-6236	BER TITLE Staff Regulatory Specialist					
SIGNATURE N/A		<b>DATE</b> 7/5/2013					

RECEIVED: Jul. 05, 2013

Sundry Number: 40781 API Well Number: 43047525600000

	STATE OF UTAH		FORM 9
,	DEPARTMENT OF NATURAL RESOURC DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In		
	oposals to drill new wells, significantly or reenter plugged wells, or to drill horizon n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-2211CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.		9. API NUMBER: 43047525600000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	9. FIELD and POOL or WILDCAT: 5NATUERAL BUTTES		
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1973 FSL 0620 FEL	COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 2	STATE: UTAH		
11. CHEC	K APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
✓ DRILLING REPORT			
Report Date: 8/5/2013	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
	COMPLETED OPERATIONS. Clearly show a completing the well. Well TD		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY August 05, 2013
NAME (PLEASE PRINT) Teena Paulo	PHONE NUMB 720 929-6236	ER TITLE Staff Regulatory Specialist	
SIGNATURE		DATE	
N/A		8/5/2013	

Sundry Number: 42065 API Well Number: 43047525600000

	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES		FORM 9
I	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A		
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In		
Do not use this form for procurrent bottom-hole depth, IFOR PERMIT TO DRILL form	epen existing wells below al laterals. Use APPLICATION	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES	
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-2211CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047525600000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	P n Street, Suite 600, Denver, CO, 80217 3	HONE NUMBER: 779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1973 FSL 0620 FEL	COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 2	IIP, RANGE, MERIDIAN: 2 Township: 09.0S Range: 21.0E Meridian	: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPOF	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	CHANGE TO PREVIOUS PLANS  CHANGE WELL STATUS  DEEPEN  OPERATOR CHANGE  PRODUCTION START OR RESUME  REPERFORATE CURRENT FORMATION  TUBING REPAIR  WATER SHUTOFF  WILDCAT WELL DETERMINATION  COMPLETED OPERATIONS. Clearly show all COMPleting the Well. Well TD		CASING REPAIR  CHANGE WELL NAME  CONVERT WELL TYPE  NEW CONSTRUCTION  PLUG BACK  RECOMPLETE DIFFERENT FORMATION  TEMPORARY ABANDON  WATER DISPOSAL  APD EXTENSION  OTHER:  DEPths, volumes, etc.  Accepted by the Utah Division of Oil, Gas and Mining  FOR RECORD ONLY  September 04, 2013
NAME (PLEASE PRINT)	PHONE NUMBER	TITLE	
Teena Paulo	720 929-6236	Staff Regulatory Specialist	
<b>SIGNATURE</b> N/A		<b>DATE</b> 9/4/2013	

Sundry Number: 42287 API Well Number: 43047525600000

	STATE OF UTAH		FORM 9
	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A		
SUNDR	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In	
	oposals to drill new wells, significantly of reenter plugged wells, or to drill horizor n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-2211CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.		9. API NUMBER: 43047525600000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18tl	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-0	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1973 FSL 0620 FEL	COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 2	HIP, RANGE, MERIDIAN: 2 Township: 09.0S Range: 21.0E Meridi	an: S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	✓ PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
,	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	☐ WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
9/3/2013	WILDCAT WELL DETERMINATION	OTHER	OTHER:
THE SUBJECT WE CHRONOLOGICAL \	COMPLETED OPERATIONS. Clearly show a LL WAS PLACED ON PRODUT WELL HISTORY WILL BE SUBM COMPLETION REPROT.	TION ON 9/3/2013. THE	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY October 02, 2013
NAME (PLEASE PRINT) Teena Paulo	<b>PHONE NUMB!</b> 720 929-6236	TITLE Staff Regulatory Specialist	
SIGNATURE N/A		<b>DATE</b> 9/5/2013	

9958' TVD PBTVD 9873'

Form 3160-4 FORM APPROVED **UNITED STATES** (August 2007) DEPARTMENT OF THE INTERIOR OMB No. 1004-0137 Expires: July 31, 2010 BUREAU OF LAND MANAGEMENT WELL COMPLETION OR RECOMPLETION REPORT AND LOG Lease Serial No. UTU010950A 1a. Type of Well Oil Well **⊠** Gas Well 6. If Indian, Allottee or Tribe Name □ Dry □ Other b. Type of Completion New Well ■ Work Over □ Deepen □ Plug Back □ Diff. Resvr. Unit or CA Agreement Name and No. Other UTU63047A 2. Name of Operator Contact: TEENA PAULO KERR-MCGEE OIL AND GAS ONSH**@RÆ**ail: Teena.Paulo@anadarko.com Contact: TEENA PAULO Lease Name and Well No. NBU 921-22I1CS P.O. BOX 173779 3a. Phone No. (include area code) 9. API Well No. DENVER, CO 82017 Ph: 720-929-6000 43-047-52560 10. Field and Pool, or Exploratory 4. Location of Well (Report location clearly and in accordance with Federal requirements)\* NATURAL BUTTES NESE 1973FSL 620FEL 40.019713 N Lat, 109.530629 W Lon At surface 11. Sec., T., R., M., or Block and Survey or Area Sec 22 T9S R21E Mer SLB At top prod interval reported below NESE 2251FSL 505FEL 12. County or Parish State UINTÁH NESE 2237FSL 497FEL UT 14. Date Spudded 03/05/2013 15. Date T.D. Reached 16. Date Completed 17. Elevations (DF, KB, RT, GL)\* D & A Ready to Prod. 09/03/2013 05/23/2013 □ D & A 4862 KB 18. Total Depth: MD 9974 19. Plug Back T.D.: MD 9890 20. Depth Bridge Plug Set: MD TVD 9969 TVD 9885 TVD Type Electric & Other Mechanical Logs Run (Submit copy of each)
CBL/GR/CCL/TEMP-HI FREQDIELECTRIC TOOL-EXTENDED RA Was well cored? **⊠** No Yes (Submit analysis) Was DST run? ▼ No Yes (Submit analysis) ▼ Yes (Submit analysis) Directional Survey?  $\square$  No 23. Casing and Liner Record (Report all strings set in well) Bottom Stage Cementer No. of Sks. & Slurry Vol. Hole Size Size/Grade Wt. (#/ft.) Cement Top\* Amount Pulled (MD) (MD) Depth Type of Cement (BBL) 20.000 14.000 STL 36.7 11.000 8.625 J-55 28.0 24 2858 900 7.875 24 4610 1739 950 4.500 I-80 11.6 7.875 4.500 P 110 11.6 4610 9936 24. Tubing Record Size Depth Set (MD) Packer Depth (MD) Size Depth Set (MD) Packer Depth (MD) Size Depth Set (MD) Packer Depth (MD) 25. Producing Intervals 26. Perforation Record Formation Top Bottom Perforated Interval Size No. Holes Perf. Status A) 7755 9825 7755 TO 9825 0.360 192 **OPEN MESAVERDE** B) C) D) 27. Acid, Fracture, Treatment, Cement Squeeze, Etc Depth Interval Amount and Type of Material PUMP 8991 BBLS SLICK H2O & 178,093 LBS 30/50 OTTAWA SAND 28. Production - Interval A Oil Gravity Produced Date Tested Production BBL MCF BBL Corr. API Gravity 09/03/2013 09/07/2013 24 42.0 2128.0 FLOWS FROM WELL 0.0 Choke Tbg. Press Csg. 24 Hr. Oil Water Gas:Oil Well Status MCF BBL Rate BBL 2677 Ratio Size Flwg. Press 20/64 3299.0 2128 0 **PGW** 42 28a. Production - Interval B Water Gas Date First Test Oil Gas Oil Gravity Production Method Hours MCF BBL BBL Corr. API Produced Date Tested Production Gravity

Csg.

Press

24 Hr.

Rate

Oil

BBL

Choke

Size

Tbg. Press

Flwg.

(See Instructions and spaces for additional data on reverse side)
ELECTRONIC SUBMISSION #220944 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

Gas

Gas:Oil

Ratio

Well Status

Water

<sup>\*\*</sup> OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

Electronic Submission #220944 Verified by the BLM Well Information System. For KERR-MCGEE OIL AND GAS ONSHORE, sent to the Vernal

Name (please print)	TEENA PAULO	 Title STAFF REGULATORY SPECIALIST
Signature	(Electronic Submission)	Date 09/24/2013

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fradulent statements or representations as to any matter within its jurisdiction.

					U	S ROC	KIES RI	EGION	
					Opera	tion S	Summa	ry Report	
Well: NBU 921-2	211CS R	ED						Spud Date: 3/2	9/2013
Project: UTAH-U	INTAH			Site: NBU	921-221	PAD			Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	3			Start Date	e: 3/4/201	3			End Date: 5/24/2013
Active Datum: RI Level)	KB @4,8	62.00usft (at	oove Mean S	ea	UWI: NE	E/SE/0/9/	S/21/E/22	/0/0/26/PM/S/197	73/E/0/620/0/0
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/29/2013	14:30	- 17:30	3.00	MIRU	01	A	Р	64	MOVE .25 MILES TO NBU 921-2211CS. MOVE IN AND RIG UP CAMPS AND CLOSED LOOP SYSTEM / STALLION 2 SEMI-TRUCKS 1 CREW TRUCK, 4 HANDS / J.D FIELD SERVICE 5 SEMI-TRUCKS - 2 CREW RIDES 1 BOBCAT / 13 TOTAL HANDS / PROPETRO 5 SEMI LOADS 1 RIG 2 CREW RIDES / 6 HANDS
	17:30	- 20:30	3.00	MIRU	01	С	Р	64	RIG UP DIVERTER & FLOWLINE /SPOT RIG PAD OVER WELL, SPOT RIG OVER WELL / SPOT IN DOG HOUSE / SET CATWALK & PIPE RACKS, HOOK UP & PRIME PUMP
		- 21:00	0.50	DRLSUR	06	Α	Р	64	PICK UP 12.25" BIT & 8" MUD MOTOR & TIH
	21:00	- 22:00	1.00	DRLSUR	02	В	Р	64	DRILL 12.25"SURFACE HOLE F/44'-210' ROP= 166' @ 166 FPH WOB= 5-15K. RPM= TOP DRIVE~55 / MOTOR ~83 /TOTAL RPM~138 GPM= 491 @ 120 SPM SPP ON/OFF= 800/600 UP/DN/ROT = 22/20/20 NOV ON LINE
		- 22:30	0.50	DRLSUR	06	Α	Р	230	TOOH & LAY DOWN 12.25" BIT
		- 23:30	1.00	DRLSUR	06	Α	Р	230	PICK UP 11" BIT & DIR. TOOLS, SCRIBE & TIH
	23:30	- 0:00	0.50	DRLSUR	02	В	P	230	DRILL 11" SURFACE F/210' -T/360'  2 ND RUN ON 11" BIT  ROP= 150' @ 300 FPH  WOB= 18-22K.  RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~  133  GPM= 491 @ 120 SPM  SPP ON/OFF= 810/495  UP/DOWN/ ROT= 38/32/35K.~DRAG= 3K  TORQUE ON/OFF = 2,900/1,000  NOV ON LINE  MW = 8.4  NO HOLE ISSUES  5' ABOVE AND 0.3' LEFT OF LINE

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						KIES RE Summa	ry Report	
Well: NBU 921-2	22I1CS RED						Spud Date: 3/2	29/2013
Project: UTAH-U			Site: NBU	921-221	PAD			Rig Name No: PROPETRO 12/12, H&P 318/318
vent: DRILLING	3		Start Date	· 3///201	3			End Date: 5/24/2013
	KB @4,862.00usft (al	bove Mean S				S/21/E/22/	0/0/26/PM/S/19	
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/30/2013	0:00 - 5:00	5.00	DRLSUR	02	В	P	380	DRILL 11" SURFACE F/360' -T/770' 2ND RUN ON 11" BIT ROP= 410' @ 82 FPH WOB= 18-22K. RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~ 133 GPM= 491 @ 120 SPM SPP ON/OFF= 1040/730 UP/DOWN/ ROT= 51/44/48K.~DRAG= 7K TORQUE ON/OFF = 3,000/1,300 NOV ON LINE MW = 8.4 ISSUES = NONE SLID - 35' = 6% 1' BELOW AND 4' RIGHT OF LINE
	5:00 - 12:00	7.00	DRLSUR	02	В	P	790	DRILL 11" SURFACE F/770' -T/1,430'  2ND RUN ON 11" BIT  ROP= 670' @ 95 FPH  WOB= 18-22K.  RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~  133  GPM= 491 @ 120 SPM  SPP ON/OFF= 1120/900  UP/DOWN/ ROT= 69/53/60K.~DRAG= 9K  TORQUE ON/OFF = 3,100/1,350  NOV ON LINE  MW = 8.4  ISSUES = NONE  SLID - 31' = 5%  ABOVE AND 5' RIGHT OF LINE
	12:00 - 17:00	5.00	DRLSUR	02	В	P	1450	DRILL 11" SURFACE F/1,430' -T/1,910' 2ND RUN ON 11" BIT ROP= 480' @ 68.6 FPH WOB= 18-22K. RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~ 133 GPM= 491 @ 120 SPM SPP ON/OFF= 1,290/1,090 UP/DOWN/ ROT= 72/64/66K.~DRAG= 6K TORQUE ON/OFF = 3,100/1,700 NOV ON LINE MW = 8.4 ISSUES = LOSING PARTIAL RETURNS DRILLING W/AIR SLID - 21' = 4% ABOVE AND 4' RIGHT OF LINE

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#### API Well Number: 43047525600000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22I1CS RED Spud Date: 3/29/2013 Project: UTAH-UINTAH Site: NBU 921-22I PAD Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 5/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/1973/E/0/620/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 17:00 - 0:00 7.00 DRLSUR 02 Ρ 1930 В DRILL 11" SURFACE F/1.910' -T/2.390' 2ND RUN ON 11" BIT ROP= 480' @ 68.6 FPH WOB= 18-22K. RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~ GPM= 491 @ 120 SPM SPP ON/OFF= 1,560/1,270 UP/DOWN/ ROT= 79/62/70K.~DRAG= 9K TORQUE ON/OFF = 3,100/1,800 NOV ON LINE MW = 8.4HOLE ISSUES = LOSING PARTIAL RETURNS DRILLING W/AIR SLID - 35' = 10% ABOVE AND 2' RIGHT OF LINE 3/31/2013 0:00 - 5:30 5.50 **DRLSUR** 02 В 2410 DRILL 11" SURFACE F/2390' -T/2868' 2ND RUN ON 11" BIT ROP= 478' @ 86.9 FPH WOB= 18-22K. RPM= TOP DRIVE~50 / MOTOR ~83 / TOTAL RPM~ GPM= 491 @ 120 SPM SPP ON/OFF= 1,390/1,190 UP/DOWN/ ROT= 87/65/75K.~DRAG= 12K TORQUE ON/OFF = 3,100/1,600 NOV ON LINE HOLE MW = 8.4ISSUES = LOSING PARTIAL RETURNS DRILLING W/ AIR SLID - 35' = 10% 4' ABOVE AND 2' RIGHT OF LINE 5:30 - 7:30 2.00 DRLSUR 2888 CIRCULATE & CONDITION HOLE F/ 8-5/8" CSG Α 7:30 - 8:00 Р 0.50 **DRLSUR** 2888 06 Α LAY DOWN DRILL STRING (12 JOINTS) GAS ON 8:00 - 9:30 1.50 DRLSUR В Ρ 2888 SPOT 11.2# MUD ON BOTTOM 9:30 - 13:00 2888 3.50 **DRLSUR** 06 Α Р LAY DOWN DRILL STRING & DIRECTIONAL TOOLS ( SPOT MUD @ BHA) 13:00 - 14:00 1.00 **DRLSUR** 12 Ρ 2888 PJSM FOR TIH CSG / MOVE PIPE RACKS & CATWALK / MOVE CSG INTO POSITION TO TIH 14:00 - 16:00 2888 2.00 **CSGSUR** 12 С Ρ RUN 64 JTS, 8-5/8", 28#, J-55, LT&C CSG. / SHOE SET @ 2,837.89' & BAFFLE @ 2,791.99' 16:00 - 17:00 2888 1.00 **CSGSUR** Р 12 Ε RUN 200' OF 1" DOWN BACKSIDE, RIG DOWN & MOVE OFF WELL / INSTALL CMT. HEAD & LOAD **TOP PLUG**

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## API Well Number: 43047525600000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22I1CS RED Spud Date: 3/29/2013 Site: NBU 921-22I PAD Project: UTAH-UINTAH Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 5/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/1973/E/0/620/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 17:00 - 19:00 2.00 DRLSUR 12 Ρ 2888 Ε HELD SM WITH PRO PETRO CEMENTERS. PRESSURE TEST LINES TO 2000 PSI. PUMP 165 BBLS OF WATER AHEAD. PUMP 20 BBLS OF 8.3# GEL WATER AHEAD. MIX AND PUMP (300 SX) 61.4 BBLS OF 15.8# 1.15 YD 5 GAL/SK PREMIUM CEMENT W/ 2% CALC. DROP PLUG ON FLY. DISPLACE W/ 174.2 BBLS OF H20. NO CIRC THROUGH OUT. FINAL LIFT OF 500 PSI AT 4 BBL/MIN. BUMP PLUG WITH 800 PSI FOR 5 MIN. FLOAT DIDN'T HOLD, SHUT IN UNDER PRESSURE. MIX AND PUMP (150 SX) 30.7 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN 1", NO CEMENT TO SURFACE. SHUT DOWN AND CLEAN TRUCK.. WAIT 2.0 HOURS MIX AND PUMP (150SX) 30.7 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE. NO CEMENT TO SURFACE. WAIT 1.5 HOURS MIX AND PUMP (150SX) 30.7 BBLS OF SAME TAIL CEMENT W/ 4% CALC. WAIT 1.5 HOURS MIX AND PUMP (150SX) 30.7 BBLS OF SAME TAIL CEMENT W/ 4% CALC. SHUT DOWN AND CLEAN TRUCK. RELEASE RIG @ 19:00, 3/31/2013. 5/13/2013 21:00 - 0:00 3.00 MIRU 01 Ε RIG DOWN ROTARY TOOLS & PREP RIG FOR MOVE MOVE MUD & UPRIGHTS - JD 4 HAYL TRUCKS & 1 BED TRUCK 5/14/2013 - 7:00 7.00 MIRU2 01 Ε RIG DOWN ROTARY TOOLS & PREP RIG FOR MOVE /// TRANSFER MUD & UPRIGHTS TO NEW LOCATION - JD= 1 BFD TRUCK 4 HAUL TRUCKS - 20:00 13.00 MIRU2 01 В Р RIG DOWN, MOVE RIG & START RIGGING UP /// H&P- 17 HANDS, 2 RIG MANAGERS / STALLION- 3 TRUCKS, 2 I-TON TRUCKS, 4 HANDS / JD FIELD SERVICES- 4 HANDS, 2- 1 TON TRUCKS, 1 BACK HOE, 1 TRENCHER / STERLING CRANE SERVICE- 1 CRANE, 1 OPERATER, 1 OILER / RW JONES, 1 CRANE WITH OPERATER & 2 OILERS, 2 FORKLIFT'S WITH OPERATERS, 2 TRUCK PUSHERS, 2 PILOT CARS, 2 SAFETY MEN, 8 TRUCKS WITH DRIVERS, 3 **SWAMPERS** //// 100% RIGGED DOWN, 80% MOVED, 35% RIGGED UP 20:00 - 0:00 4 00 MIRU2 C Р 21 WAIT ON DAYLIGHT 0:00 5/15/2013 - 7:00 7.00 MIRU2 21 С Ρ WAIT ON DAYLIGHT 7:00 - 19:00 12.00 MIRU2 В Р MOVE RIG & RIG UP /// H&P- 17 HANDS, 2 RIG MANAGERS / JD FIELD SERVICES- 4 HANDS, 2- 1 TON TRUCKS, 1 BACK HOE, 1 TRENCHER / STERLING CRANE SERVICE- 1 CRANE, 1 OPERATER, 1 OILER / RW JONES, 1 CRANE WITH OPERATER & 2 OILERS, 2 FORKLIFT'S WITH OPERATERS, 2 TRUCK PUSHERS, 2 PILOT CARS, 2 SAFETY MEN, 8 TRUCKS WITH DRIVERS, 3 SWAMPERS /// DERRICK IN AIR @ 18:00 /// RELEASE TRUCKS & CRANES @ 19:00 19:00 - 22:00 3.00 MIRU2 01 В Ρ CONTINUE TO RIG UP BY HAND /// PULL ELECTRIC CABLES /// POWER UP RIG /// HOOK UP MUD LINES

### API Well Number: 43047525600000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22I1CS RED Spud Date: 3/29/2013 Site: NBU 921-22I PAD Project: UTAH-UINTAH Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 5/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/1973/E/0/620/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 22:00 - 0:00 2.00 MIRU2 21 Ρ WAIT ON DAYLIGHT В 0:00 - 6:00 MIRU2 6.00 С Р 5/16/2013 21 WAIT ON DAYLIGHT 6:00 - 12:00 6.00 MIRU2 01 В Ρ RIG UP BY HAND /// PIN BLOCKS TO TOP DRIVE /// RIG BEAVER SLIDE, PIPE WRANGLER, POWER LINES, MUD LINES /// POSITION RIG OVER WELL 12:00 - 16:00 4 00 PRPSPD Р 14 Α NIPPLE UP BOPE, FLOW LINE, CHOKE LINES, SMITH BEARING PACK & SWACO EQUIPMENT 16:00 - 22:00 6.00 **PRPSPD** 15 Ρ PJSM W/ A-1 TESTER /// TEST CHOKE, TIW DART VALVE, UPPER KELLY VALVE, LOWER KELLY VALVE, PIPE RAMS, BLIND RAMS, HCR VALVE, OUTSIDE CKOKE VALVE, INSIDE & OUTSIDE MANIFOLD VALVES, & SUPER CHOKE @ 250psi LOW FOR 5 MINUTES, AND @ 5000psi HIGH FOR 10 MINUTES.TEST ANNULAR @ 250psi LOW FOR 5 MINUTES AND @ 2500psi HIGH FOR 10 MINUTES /// TEST CASING @ 1500 PSI FOR 30 MINUTES 22:00 - 0:00 2.00 PRPSPD 15 Р TEST BEARING PACK ASSEMBLY, ORBIT VALVE, SWACO CHOKE VALVES & LINE TO 1000 PSI FOR 10 MINUTES /// HAD TO CLEAN CEMENT OUT OF ORBIT VALVE, TIGHTEN FLANGE ON FLOWLINE TO SMITH HEAD 5/17/2013 0:00 - 1:00 1.00 PRPSPD 15 Р Α FINISH TESTING SWACO VALVE & LINES // ALL **TESTS GOOD** - 1:30 1.00 0.50 **PRPSPD** 14 В P **INSTALL WER BUSHING** 1:30 - 2:30 1.00 **PRPSPD** 07 В Ρ LEVEL DERRICK & INSTALL MOUSE HOLE // PUMP THRU PUMPS & TOP DRIVE TO BE SURE MUD LINES ARE CLEAR 2:30 - 8:30 6.00 **DRLPRV** 06 Р PICK UP SMITH MDSI 616 BIT, SDI .23 RPG/1.5 BEND, MWD & ORIENT MWD, MONELS, HWDP & DRILL PIPE TO 2767' 8:30 - 9:30 1.00 DRLPRV Ζ \*\*\*REPAIR FUEL LEAK ON GENERATOR 9:30 - 11:00 1.50 **DRLPRV** 02 F DRILL CMT & FLOAT EQUIPMENT F/ 2767'-T/ 2857' /// CLEAN OUT OPEN HOLE F/ 2857'- T/ 2888' 11:00 - 13:30 2.50 **DRLPRV** 02 В Ρ 2888 DRILL (ROTATE/SLIDE) F/ 2888'-T/ 3105' RATE OF PENATRATION= 217' @ 86.8' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR =135 TOP DRIVE= 65 ~ TOTAL= 200 GALLONS PER MINUTE = 586 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 1900 / 1550 TORQUE~ ON/OFF = 3000 / 3000 PICKUP/SLACK OFF/ROTATE= 105K / 95K / 100K MUD WEIGHT= 8.9 / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE= BIT POSITION= LAST SURVEY= 0 MUD LOST TO SEEPAGE 13:30 - 14:00 0.50 **DRLPRV** 07 Ρ SERVICE RIG & EQUIPMENT

9/11/2013 3:12:39PM 5

Р

14:00 - 17:30

3.50

**DRLPRV** 

08

Α

\*\*\* REPAIR FUEL LEAK ON GENERATOR ( PULL 4

STANDS INTO SHOE)

				Opera	tion S	Summa	ry Report	
Well: NBU 921-2	22I1CS RED						Spud Date: 3/2	29/2013
Project: UTAH-L			Site: NBL	J 921-22I	PAD			Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLING	G		Start Date	-· 3/4/2∩1	3			End Date: 5/24/2013
	KB @4,862.00usft (a	bove Mean S	_	1		/S/21/E/22	/0/0/26/PM/S/19	
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:30 - 0:00	6.50	DRLPRV	02	В	P	3105	DRILL (ROTATE/SLIDE) F/ 3105'- T/ 3719' RATE OF PENATRATION= 614' @ 94.4' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR = 135 TOP DRIVE= 65 ~ TOTAL= 200 GALLONS PER MINUTE = 586 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 1850 / 1600 TORQUE~ ON/OFF = 4000 / 4000 PICKUP/SLACK OFF/ROTATE= 120K / 93K / 106K MUD WEIGHT= 9.0 / VISCOSITY= 30 NOV DEWATERING. SWACO OFF LINE SLIDE= 40' / 55 MINUTES BIT POSITION= 2.44' NORTH & 4.070 EAST OF TARGET CENTER LAST SURVEY @ 3710'= .07 DEG., 39.67 AZ., 3694.23 TVD 25 MUD LOST TO SEEPAGE 5' DRILLING FLARE // 10' CONNECTION FLARE
5/18/2013	0:00 - 6:00	6.00	DRLPRV	02	В	P	3719	DRILL (ROTATE/SLIDE) F/ 3719' - T/ 4329' RATE OF PENATRATION= 610' @ 122' /HR WEIGHT ON BIT = 22 / 24 K RPM ~ MUD MOTOR = 135 TOP DRIVE= 65 ~ TOTAL= 200 GALLONS PER MINUTE = 586 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 1850 / 1600 TORQUE~ ON/OFF = 4000 / 2000 PICKUP/SLACK OFF/ROTATE= 120K / 93K / 106K MUD WEIGHT= 9.0 / VISCOSITY= 30 NOV DEWATERING. SWACO OFF LINE SLIDE= 12' / 15 MINUTES BIT POSITION= .95' NORTH & 3.73 EAST OF TARGET CENTER LAST SURVEY @ 4087'= .88 DEG., 229.18 AZ., 4071 TVD 0 MUD LOST TO SEEPAGE

## API Well Number: 43047525600000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22I1CS RED Spud Date: 3/29/2013 Site: NBU 921-22I PAD Project: UTAH-UINTAH Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 5/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/1973/E/0/620/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 6:00 - 12:00 6.00 **DRLPRV** 02 Ρ 4329 В DRILL (ROTATE/SLIDE) F/ 4329'- T/ 4817' RATE OF PENATRATION= 488' @ 81' /HR WEIGHT ON BIT = 22 / 26 K RPM ~ MUD MOTOR =135 TOP DRIVE= 65 ~ TOTAL= 200 GALLONS PER MINUTE = 586 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 1850 / 1600 TORQUE~ ON/OFF = 4000 / 2000 PICKUP/SLACK OFF/ROTATE= 120K / 93K / 106K MUD WEIGHT= 9.0 / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE= 15' / 25 MINUTES BIT POSITION= 16.4' NORTH & 13' WEST OF TARGET CENTER LAST SURVEY @ 4843'= .88 DEG., 172.3 AZ., 4827' 0 MUD LOST TO SEEPAGE 5-8' DRILLING FLARE // 10'-15' CONNECTION FLARE 12:00 - 15:30 3 50 DRI PRV 02 В 4817 DRILL (ROTATE/SLIDE) F/ 4817'-T/ 5040' RATE OF PENATRATION= 223' @ 63.7' /HR WEIGHT ON BIT = 22 / 26 K RPM ~ MUD MOTOR =135 TOP DRIVE= 65 ~ TOTAL= 200 GALLONS PER MINUTE = 586 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2000 / 1700 TORQUE~ ON/OFF = 4000 / 3000 PICKUP/SLACK OFF/ROTATE= 140K / 108K / 121K MUD WEIGHT= 9.9 / VISCOSITY= 34 NOV OFF LINE SWACO OFF LINE SLIDE= 0 BIT POSITION= 14' NORTH & 12.3' WEST OF TARGET CENTER LAST SURVEY @ 4987'= 1.18 DEG., 172.19 AZ., 4971' TVD 0 MUD LOST TO SEEPAGE 15:30 - 17:00 1.50 **DRLPRV** 05 Р CIRCULATE & CONDITION HOLE FOR LOGS ( CHECK FLOW- SMALL FLOW WITH 9.7 ppg- RAISE WT. TO 9.9 ppg- CHECK FLOW -NO FLOW) 17:00 - 20:00 3.00 DRLPRV 06 F WIPER TRIP TO CASING SHOE @ 2857' 20:00 - 21:00 1.00 **DRLPRV** 05 Α Р CIRCULATE & CONDITION HOLE FOR LOGS 21:00 - 23:00 TRIP OUT OF HOLE FOR LOGS 2.00 **DRLPRV** Р 06 Α 23:00 - 0:00 1.00 **DRLPRV** 11 D SAFETY MEETING WITH HALIBURTON WIRELINE AND RIG UP WIRE LIN TOOLS 5/19/2013 0:00 - 7:00 7.00 **DRLPRV** 11 D Ρ LOGGING RUN #1 // TRIPLE COMBO/CSNG/HFDT/GEM (LOGGERS DEPTH =5027' / DRLLER'S TD= 5040') 7:00 - 16:00 9.00 **DRLPRV** 11 D Р LOGGING RUN #2 / /MRIL (LOGGER DEPTH= 5020') 16:00 - 21:30 5.50 DRLPRV D Р 11 LOGGING RUN #3 // Dipole Sonic / XRMI ( LOGGER **DEPTH 5030')** 21:30 - 23:00 1.50 DRI PRV Р SLIP & CUT DRILLING LINE 68' 09 Α 23:00 - 0:00 1.00 DRLPRV Ρ PICK UP MWD TOOLS & SCRIBE IN HOLE 06 Α

				Opera	tion S	umma	ry Report	
Vell: NBU 921-	2214.00 DED						Spud Date: 3/2	20/2013
Project: UTAH-			Site: NBL	I 921-22I	PAD		Spud Date: 3/2	Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLIN								End Date: 5/24/2013
	RKB @4,862.00usft (a	hovo Moon S	Start Dat	1		S/21/F/22	/0/0/26/PM/S/19	
evel)	RKB @4,002.00usit (a	bove iviean S	ea	OVVI. IVL	_/OL/0/9/	0/2 1/12/2/	0/0/20/1 10/0/19	13/2/0/020/0/0
Date	Time	Duration	Phase	Code	Sub	P/U	MD From	Operation
	Start-End	(hr)	DDI DDI /		Code		(usft)	PIG 05P
	16:00 - 16:30 16:30 - 0:00	0.50	DRLPRV	07	A	Р	6501	RIG SER
	10.30 - 0:00	7.50	DRLPRV	02	В	P	6501	DRILL (ROTATE/SLIDE) F/ 6501'-T/ 7095' RATE OF PENATRATION= 594' @79.2' /HR WEIGHT ON BIT = 22 / 23 K RPM ~ MUD MOTOR =135 TOP DRIVE= 62 ~ TOTAL= 197 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2200 / 1950 TORQUE~ ON/OFF = 8000 / 4000 PICKUP/SLACK OFF/ROTATE= 190K / 140K / 155K MUD WEIGHT= 9.4 / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE 10' FEET 0 HRS. 30 MINS BIT POSITION= 12.35 'WEST & 14.09' NORTH LAST SURVEY= 7015 'INC .26 'AZ 40.49 TVD 6999.0 30 MUD LOST TO SEEPAGE
5/21/2013	0:00 - 6:00	6.00	DRLPRV	02	В	P	7095	DRILL (ROTATE/SLIDE) F/ 7095'-T/ 7500' RATE OF PENATRATION= 405' @ 67.5 ' /HR WEIGHT ON BIT = 22 / 23 K RPM ~ MUD MOTOR = 135 TOP DRIVE= 62 ~ TOTAL= 197 GALLONS PER MINUTE = 585 STROKES PER MINUTE = 130 STAND PIPE PSI~0N/OFF = 2200 / 1950 TORQUE~ ON/OFF = 8000 / 4000 PICKUP/SLACK OFF/ROTATE= 190K / 140K / 155K MUD WEIGHT= 9.4 / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE ' FEET 0 HRS. 0 MINS BIT POSITION= 12.0 ' WEST & 15.1' NORTH LAST SURVEY= 7485 ' INC08 AZ 59.75 TVD 7469 10 MUD LOST TO SEEPAGE
	6:00 - 12:00	6.00	DRLPRV	02	В	P	7500	DRILL (ROTATE/SLIDE) F/7500'-T/7777'  RATE OF PENATRATION= 277' @ 46.16 ' /HR  WEIGHT ON BIT = 22 / 23 K  RPM ~ MUD MOTOR = 112  TOP DRIVE= 50 ~ TOTAL= 162  GALLONS PER MINUTE = 486  STROKES PER MINUTE = 108  STAND PIPE PSI~0N/OFF = 1754 / 1550  TORQUE~ ON/OFF = 8000 / 4000  PICKUP/SLACK OFF/ROTATE= 190K / 140K / 155K  MUD WEIGHT= 9.4 / VISCOSITY= 34  NOV DEWATERING.  SWACO OFF LINE  SLIDE 9 ' FEET 0 HRS. 30 MINS  BIT POSITION= 11.3 'WEST & 14.4' NORTH  LAST SURVEY= 7674 ' INC27 AZ 65.72 TVD  7657.99

API We	ell Number	4304	752560			KIES RI	EGION	
				Opera	tion S	umma	ry Report	
Well: NBU 921-	22I1CS RED						Spud Date: 3/2	9/2013
Project: UTAH-l	UINTAH		Site: NBL	921-221	PAD			Rig Name No: PROPETRO 12/12, H&P 318/318
Event: DRILLIN	G		Start Date	e: 3/4/201	3			End Date: 5/24/2013
Active Datum: F	RKB @4,862.00usft (al	oove Mean S	ea	UWI: NE	SE/0/9/	S/21/E/22	:/0/0/26/PM/S/197	73/E/0/620/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	12:00 - 15:30	3.50	DRLPRV	02	В	P	7777	DRILL (ROTATE/SLIDE) F/7777'-T/7915' RATE OF PENATRATION= 138' @ 39.42 ' /HR WEIGHT ON BIT = 22 / 23 K RPM ~ MUD MOTOR =112 TOP DRIVE= 50 ~ TOTAL= 162 GALLONS PER MINUTE = 486 STROKES PER MINUTE = 108 STAND PIPE PSI~0N/OFF = 1754 / 1550 TORQUE~ ON/OFF = 8000 / 4000 PICKUP/SLACK OFF/ROTATE= 190K / 140K / 155K MUD WEIGHT= 9.4 / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE 9 ' FEET 0 HRS. 30 MINS BIT POSITION= 9.0 ' WEST & 14.3' NORTH LAST SURVEY= 7863 ' INC7 AZ 112.97 TVD 7846.99 9 MUD LOST TO SEEPAGE
	15:30 - 16:00	0.50	DRLPRV	07	Α	Р		RIG SER.
5/22/2013	16:00 - 0:00 0:00 - 6:00	8.00	DRLPRV	02	В	P	7915 8337	DRILL (ROTATE/SLIDE) F/ 7915'-T/ 8337'  RATE OF PENATRATION= 422' @ 52.75 ' /HR  WEIGHT ON BIT = 24 / 26 K  RPM ~ MUD MOTOR = 124  TOP DRIVE= 50 ~ TOTAL= 162  GALLONS PER MINUTE = 540  STROKES PER MINUTE = 120  STAND PIPE PSI~0N/OFF = 2400 / 1900  TORQUE~ ON/OFF = 9000 / 5000  PICKUP/SLACK OFF/ROTATE= 230K / 150K / 175K  MUD WEIGHT= 9.4 / VISCOSITY= 34  NOV DEWATERING.  SWACO OFF LINE  SLIDE 10 ' FEET 1 HRS. 0 MINS  BIT POSITION= 9.44 ' WEST & 12.45' NORTH  LAST SURVEY= 8334 ' INC .51 AZ 150.49 TVD  8317.98  10 MUD LOST TO SEEPAGE  DRILL (ROTATE/SLIDE) F/ 8337'-T/ 8671 '
G.ELIZU IU	0.00	5.50	S. LEI IVV	02	J			RATE OF PENATRATION= 334' @ 55.66' /HR WEIGHT ON BIT = 24 / 26 K RPM ~ MUD MOTOR = 124 TOP DRIVE= 50 ~ TOTAL= 162 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2400 / 1900 TORQUE~ ON/OFF = 9000 / 5000 PICKUP/SLACK OFF/ROTATE= 230K / 150K / 175K MUD WEIGHT= 9.4 / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE 10 ' FEET 0 HRS. 35 MINS BIT POSITION= 10' WEST & 12.8' NORTH LAST SURVEY= 8618 'INC .44 AZ 24.39 TVD 8601.97 10 MUD LOST TO SEEPAGE

## API Well Number: 43047525600000 **US ROCKIES REGION Operation Summary Report** Well: NBU 921-22I1CS RED Spud Date: 3/29/2013 Site: NBU 921-22I PAD Project: UTAH-UINTAH Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 5/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/1973/E/0/620/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea Date P/U Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 6:00 - 11:30 5.50 **DRLPRV** 02 Ρ 8671 В DRILL (ROTATE/SLIDE) F/8671'-T/9056 ' RATE OF PENATRATION= 385' @ 70' /HR WEIGHT ON BIT = 24 / 26 K RPM ~ MUD MOTOR =124 TOP DRIVE= 60 ~ TOTAL= 184 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2050 / 1780 TORQUE~ ON/OFF = 9000 / 9000 PICKUP/SLACK OFF/ROTATE= 230K / 150K / 175K MUD WEIGHT= 9.4 / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE 0 ' FEET 0 HRS. 0 MINS BIT POSITION= 5.8 'WEST & 14.4' NORTH LAST SURVEY= 8995 'INC .46 AZ 91.58 TVD 8978.95 0 MUD LOST TO SEEPAGE 11:30 - 12:00 0.50 DRLPRV Α RIG SER. 12:00 - 18:00 В Р 9056 6.00 DRLPRV 02 DRILL (ROTATE/SLIDE) F/ 9056'-T/ 9362 ' RATE OF PENATRATION= 306' @ 51 ' /HR WEIGHT ON BIT = 24 / 26 K RPM ~ MUD MOTOR =124 TOP DRIVE= 60 ~ TOTAL= 184 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2050 / 1780 TORQUE~ ON/OFF = 9000 / 9000 PICKUP/SLACK OFF/ROTATE= 240K / 155K / 188K MUD WEIGHT= 9.4 / VISCOSITY= 34 NOV DEWATERING. SWACO OFF LINE SLIDE 0 ' FEET 0 HRS. 0 MINS BIT POSITION= 4.4 'WEST & 12.2' NORTH LAST SURVEY= 9279 'INC .62 AZ 184.17 TVD 9262 94 35 MUD LOST TO SEEPAGE 18:00 - 0:00 6.00 **DRLPRV** 02 9362 DRILL (ROTATE/SLIDE) F/ 9362'-T/ 9627 ' RATE OF PENATRATION= 265' @44.16 ' /HR WEIGHT ON BIT = 24 / 26 K RPM ~ MUD MOTOR =124 TOP DRIVE= 60 ~ TOTAL= 184 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2050 / 1780 TORQUE~ ON/OFF = 9000 / 9000 PICKUP/SLACK OFF/ROTATE= 240K / 155K / 188K MUD WEIGHT= 12.0 / VISCOSITY= 34 NOV CON SWACO OFF LINE SLIDE 0 ' FEET 0 HRS. 0 MINS BIT POSITION= 4.07 'WEST & 8.22' NORTH LAST SURVEY= 9562 'INC .88 AZ 172.13 TVD 9557.37 0 MUD LOST TO SEEPAGE

### API Well Number: 43047525600000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22I1CS RED Spud Date: 3/29/2013 Site: NBU 921-22I PAD Project: UTAH-UINTAH Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 5/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/1973/E/0/620/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea Date P/U Time Duration Phase Code MD From Operation Sub Start-End (hr) Code (usft) 5/23/2013 0:00 - 6:00 6.00 **DRLPRV** 02 Ρ 9627 В DRILL (ROTATE/SLIDE) F/ 9627'-T/9805 ' RATE OF PENATRATION= 178' @ 29.66 ' /HR WEIGHT ON BIT = 24 / 26 K RPM ~ MUD MOTOR =124 TOP DRIVE= 60 ~ TOTAL= 184 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2300 / 2000 TORQUE~ ON/OFF = 9000 / 9000 PICKUP/SLACK OFF/ROTATE= 240K / 155K / 188K MUD WEIGHT= 12.0 / VISCOSITY= 34 NOV CON. SWACO OFF LINE SLIDE 0 ' FEET 0 HRS. 0 MINS BIT POSITION= 3.91 'WEST & 6.60' NORTH LAST SURVEY= 9675 'INC .96 AZ 169.95 TVD 9640.90 0 MUD LOST TO SEEPAGE DISPLACE W/ 12.0 MUD VIS 34 6:00 - 11:30 5.50 DRI PRV 02 В 9805 DRILL (ROTATE/SLIDE) F/ 9805'-T/9974 ' RATE OF PENATRATION= 169' @ 30.72 ' /HR WEIGHT ON BIT = 24 / 26 K RPM ~ MUD MOTOR =124 TOP DRIVE= 60 ~ TOTAL= 184 GALLONS PER MINUTE = 540 STROKES PER MINUTE = 120 STAND PIPE PSI~0N/OFF = 2300 / 2000 TORQUE~ ON/OFF = 9000 / 9000 PICKUP/SLACK OFF/ROTATE= 240K / 155K / 188K MUD WEIGHT= 12.0 / VISCOSITY= 34 NOV CON. SWACO OFF LINE SLIDE 0 ' FEET 0 HRS. 0 MINS BIT POSITION= 3.2 'WEST & 1.0' NORTH LAST SURVEY= 9921 'INC .1.14 AZ 168.70 TVD 0 MUD LOST TO SEEPAGE 11:30 - 13:00 1.50 **DRLPRV** 05 С Р CIRC COND MUD FOR SHORT TRIP 13:00 - 15:00 2.00 Е Р 10 STD WIPER TRIP DRI PRV 06 15:00 - 16:30 1.50 DRLPRV 05 C CIRC OUT GAS NO FLAR 16:30 - 21:30 5.00 **DRLPRV** 06 Α Р TOH TO RUN 4.5 CASING 21:30 - 23:00 Р 1.50 **DRLPRV** LAY DOWN MWD TOOLS 06 Α 23:00 - 23:30 0.50 **DRLPRV** Ρ PULLED WEAR BUSHING 06 Α 23:30 - 0:00 0.50 **DRLPRV** 12 Α Р RIG UP KIMZEY CASING CREW 5/24/2013 0:00 - 0:30 0.50 DRLPRV 12 Α Ρ 9974 RIG UP CASING CREW HELD SAFETY MEETING 0:30 - 8:30 8.00 DRLPRV 12 С Ρ RUN 4.5 CASING 4.5 # 11.6 120 JTS LT&C RUN 105 JTS 11.6 DQX SHOE @ 9936 FLOAT COLLAR @ 9890 MARKER JTS. 7759, D V TOOL @ 5076' 8:30 - 10:00 1.50 DRLPRV Ρ 05 Α CIRC OUT GAS HAD NO FLARE RIG DOWN CASING CREW, RIG UP CMT CREW HELD SAFETY MEETING WITH CMT CREW & RIG HANDS

## API Well Number: 43047525600000 US ROCKIES REGION **Operation Summary Report** Spud Date: 3/29/2013 Well: NBU 921-22I1CS RED Project: UTAH-UINTAH Site: NBU 921-22I PAD Rig Name No: PROPETRO 12/12, H&P 318/318 **Event: DRILLING** End Date: 5/24/2013 Start Date: 3/4/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/1973/E/0/620/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 10:00 - 12:00 2.00 **DRLPRV** 12 Ρ В CMT FIRST STAGE TESTED LINES TO 5.000 PSI PUMPED 25 BBLS FRESH WATER AHEAD TAIL CMT # 14.3 YIELD 1.35 1025SX 50:50 POZ (FLY ASH) CLASS G CEMENT +0.05% BWOC sTATIC FREE + 10% BWOW SODIUM CHLORIDE + 0.55% CWOC R3 + 0.5% BWOC EC-1 + 0.25 LBS/SACKS CELLO FLAKE + 0.002 GPS FP-6L + 0.7% BWOC SODIUM METASILICATE + 2% BWOC BENTONITE II + LB/SACK KOL- SEAL, 50 LB BAG + 55.9% FRESH WATER DISPLACEMED WITH 90 BBLS H2O & 63 BBLS OF MUD 12.0 TOTAL DISPLACEMENT 153 BBLS. LIFT PSI 1600 BUMPED PSI 2704 DROPPED BOMB 11:30 WAIT 30 MINS MINUTES PUMPED 1 BBLS TO OPENED DV TOOL 682 PSI 12:00 - 15:30 3.50 **DRLPRV** 05 CIRC WITH FULL RETRUNED HAD 25 BBLS FRESH WATER TO SURFACE BUT NO CEMENT TO **SURFACE** 15:30 - 18:00 2.50 DRLPRV 12 Е CMT SEC. STAGE LEAD 12.5 YIELD 2.01 664 SX CMT PREMIUM LITE // CEMENT +0.05%bwoc STATIC FREE +2%bwoc CALCIUM CHLORIDE + 0.25 lbs/sack CELLO FLAKE +5 lbs/sack KOL-SEAL 50lb bag + 0.4 bwoc FL-52 +0.4% bwoc SODIUM METASILICATE + 6% bwoc BENTONITE // +101.2 % FRESH WATER TAIL 15.8 YIELD 1.16 50 SACK CLASS G CEMENT + 1% bwoc CALCIUM CHLORIDE + 0.4 % bwoc SODIUM METASII ICATE + 44.4% FRESH WATER DISPLACED WITH 78.7 BBLS. FRESH WATER CALY FIX HAD FRESH WATER 25 BBLS CEMENT 1 BBLS TO SURFACE 18:00 - 18:30 Р SET PACK OFF TEST TO 5000 K L/D LANDING JTS 0.50 **DRLPRV** 12 Ε 18:30 - 19:00 0.50 **DRLPRV** Ρ 14 Α NIPPLE DOWN BOPS, CLEAN PITS; RIG RELEASED @ 19:00 5/24/2013

# General

## **Customer Information** <del>[</del>:

Company	US ROCKIES REGION
Representative	
Address	

# Well/Wellbore Information 1.2

				Ž
				API
			US ROCKIES REGION	₩e.
				11
General				Nun
Customer Information				mber:
Company	US ROCKIES REGION			4
Representative				30
Address				)4
Well/Wellbore Information	tion			75256
Well	NBU 921-2211CS RED	Wellbore No.	Ю	500
Well Name	NBU 921-2211CS	Wellbore Name	NBU 921-22I1CS	00
Report No.	_	Report Date	8/26/2013	00
Project	UTAH-UINTAH	Site	NBU 921-22I PAD	)
Rig Name/No.		Event	COMPLETION	
Start Date	8/21/2013	End Date	8/31/2013	
Spud Date	3/29/2013	Active Datum	RKB @4,862.00usft (above Mean Sea Level)	
UWI	NE/SE/0/9/S/21/E/22/0/0/26/PM/S/1973/E/0/620/0/0			

## General ..

Contractor	Job Method	Supervisor	
Perforated Assembly	Conveyed Method		

Summary

1.5

## Initial Conditions 1.4

Fluid Type	Fluid Density	Gross Interval	7,755.0 (usft)-9,825.0 (usft   Start Date/Time	Start Date/Time	8/26/2013 12:00AM
Surface Press	Estimate Res Press	No. of Intervals	49	49 End Date/Time	8/26/2013 12:00AM
TVD Fluid Top	Fluid Head	Total Shots	192	192 Net Perforation Interval	62.00 (usft)
Hydrostatic Press	Press Difference	Avg Shot Density	3.10 (shot/ft)	3.10 (shot/ft) Final Surface Pressure	
Balance Cond NEUTRAL				Final Press Date	

# Intervals

## Perforated Interval 2.1

September 11, 2013 at 3:14 pm

Misrur	
Reason	23.00 PRODUCTIO N
Charge Weight (gram)	23.00
Charge Desc /Charge Manufacturer	
Phasing (°)	00'06
Carr Size (in)	3.375
Carr Type /Stage No	EXP/
Diamete r (in)	0.360 EXP/
Misfires/ Add. Shot	
Shot Density (shot/ft)	4.00
MD Base (usft)	7.758.0
CCL@         CCL-T         MD Top         MD Base           (usft)         S         (usft)         (usft)	7.755.0
CCL-T S (usft)	
(Jsn)	
Formation/ Reservoir	/26/2013  MESAVERDE/ 2:00AM
Date	8/26/2013 12:00AM

OpenWells

Perforated Interval (Continued)

														US ROCKIES REGION	API Wel
2.1 Pe	Perforated Interval (Continued)	Continu	(pa												l Nu
Date	Formation/ Reservoir	(Jusn)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot M Density Ac (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	mber Indiana
8/26/2013 12:00AM	MESAVERDE/			7,967.0	7,970.0	4.00		0.360 E	EXP/	3.375	90.00		23.00	23.00 PRODUCTIO N	: 4
8/26/2013 12:00AM	MESAVERDE/			8,010.0	8,011.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	304
8/26/2013 12:00AM	MESAVERDE/			8,051.0	8,053.0	3.00		0.360 EXP/	:XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	175
8/26/2013 12:00AM	MESAVERDE/			8,060.0	8,062.0	3.00		0.360 EXP/	:XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	256
8/26/2013 12:00AM	MESAVERDE/			8,104.0	8,106.0	3.00		0.360 EXP/	:XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	000
8/26/2013 12:00AM	MESAVERDE/			8,126.0	8,127.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	00
8/26/2013 12:00AM	MESAVERDE/			8,194.0	8,195.0	3.00		0.360 EXP/	:XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,293.0	8,294.0	3.00		0.360 EXP/	XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,355.0	8,357.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,457.0	8,459.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,470.0	8,472.0	3.00		0.360 EXP/	:XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,710.0	8,711.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,732.0	8,733.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,774.0	8,775.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,815.0	8,816.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,824.0	8,825.0	3.00		0.360 EXP/	:XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,835.0	8,836.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,849.0	8,850.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,870.0	8,871.0	3.00		0.360 E	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,920.0	8,921.0	3.00		0.360 EXP/	:XP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			8,939.0	8,940.0	3.00		0.360 EXP/	EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	

Perforated Interval (Continued)

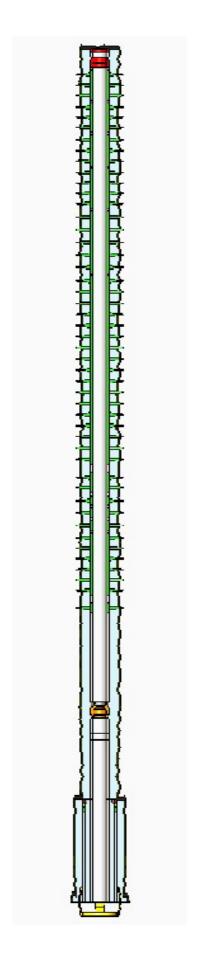
												ر	US ROCKIES REGION	
2.1 Pe	Perforated Interval (Continued)	(Continu	(pa											ll Nu
Date	Formation/ Reservoir	(Jusn)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Misfires/ Density Add. Shot (shot/ft)	s/ Diamete not r (in)	ete Carr Type /Stage No	Carr Size (in)	Phasing (C)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	mber Wiston
8/26/2013 12:00AM	MESAVERDE/			8,984.0	8,985.0	3.00	0.5	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	: 4
8/26/2013 12:00AM	MESAVERDE/			8,996.0	8,997.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	304
8/26/2013 12:00AM	MESAVERDE/			9,026.0	9,027.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	1752
8/26/2013 12:00AM	MESAVERDE/			0.090,6	9,061.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	256
8/26/2013 12:00AM	MESAVERDE/			0.090,6	9,091.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	000
8/26/2013 12:00AM	MESAVERDE/			9,098.0	0.660,6	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	00
8/26/2013 12:00AM	MESAVERDE/			9,136.0	9,137.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,160.0	9,161.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,215.0	9,216.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,265.0	9,266.0	3.00	0.2	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,295.0	9,296.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,308.0	9,309.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,320.0	9,321.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,349.0	9,350.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,420.0	9,421.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,456.0	9,458.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,466.0	9,468.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,482.0	9,484.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,534.0	9,535.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,582.0	9,583.0	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	
8/26/2013 12:00AM	MESAVERDE/			9,608.0	0.609,6	3.00	0.3	0.360 EXP/	3.375	120.00		23.00	23.00 PRODUCTIO N	

Perforated Interval (Continued)

API Wel	l Nu	mber	: 4	304	1752	256	000	00
REGION		Misrun						
US ROCKIES REGION		Reason	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N	23.00 PRODUCTIO N
		Charge Weight (gram)	23.00	23.00	23.00	23.00	23.00	23.00
		Charge Desc /Charge Manufacturer						
		Phasing (°)	120.00	120.00	120.00	120.00	120.00	120.00
		Carr Size (in)	3.375	3.375	3.375	3.375	3.375	3.375
		Carr Type /Stage No	EXP/	EXP/	EXP/	EXP/	EXP/	EXP/
		Diamete r (in)	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360 EXP/	0.360 EXP/
		Misfires/ Add. Shot						
		Shot Density (shot/ft)	3.00	3.00	3.00	3.00	3.00	3.00
		MD Base (usft)	9,685.0	9,694.0	9,702.0	9,769.0	9,803.0	9,825.0
		CCL-T MDTop MD Base S (usft) (usft)	9,684.0	9,693.0	9,701.0	9,768.0	9,802.0	9,824.0
	ed)							
	(Continu	(Jsn)						
	Perforated Interval (Continued)	Formation/ Reservoir	8/26/2013 MESAVERDE/ 12:00AM	8/26/2013 MESAVERDE/ 12:00AM	8/26/2013 MESAVERDE/ 12:00AM	8/26/2013 MESAVERDE/ 12:00AM	MESAVERDE/	MESAVERDE/
	2.1 Pe	Date	8/26/2013 12:00AM	8/26/2013 12:00AM	8/26/2013 12:00AM	8/26/2013 12:00AM	8/26/2013 12:00AM	8/26/2013 12:00AM



## Wellbore Schematic 3.1



					U	IS ROC	KIES R	EGION	
					Opera	ation S	Summa	ry Report	
Well: NBU 921-2	2211CS R	ED						Spud Date: 3/2	29/2013
Project: UTAH-U	JINTAH			Site: NBU	921-221	PAD			Rig Name No: MILES 2/2
Event: COMPLE	TION			Start Date	e: 8/21/20	013			End Date: 8/31/2013
Active Datum: RI Level)	KB @4,8	62.00usft (al	oove Mean S	ea	UWI: N	E/SE/0/9/	S/21/E/22	:/0/0/26/PM/S/197	73/E/0/620/0/0
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/24/2013	7:00	- 7:15	0.25	SUBSPR	48		Р		HSM, SLIPS, TRIPS & FALLS, RIG MOVE, PRESS TESTING
	7:15	- 17:00	9.75	SUBSPR	31	I	Р		MIRU ND WH, NU BOP INSTAL VALVE ON BTM OUTLET, RU FLOOR & TBG EQUIP, PU 3 7/8" BIT, BIT SUB, LSN S/N & TBG TAGGED @ 4,950', RU P/S, BREAK REV CIRC, P/T BOP TO 3,000 PSI, D/O CMT & DV TOOL FROM 4,950' TO 5,095', WORK THRU DV TOOL 4 TIMES SEEN NOTHING, CIRC BTMS UP, SET P/S BACK, PU TBG TO PBTD @ 9,889', CIRC BTMS UP, L/D TBG, SWI, SDFN
7/25/2013	7:00	- 7:15	0.25	SUBSPR	48		Р		HSM, SLIPS, TRIPS & FALLS, L/D TBG, RIG MOVE
	7:15	- 12:00	4.75	SUBSPR	31	I	Р		6 OF 6, L/D TBG, RR FLOOR & TBG EQUIP, ND BOP, NU WH, FILL & P/T CSG TO 3,000 PSI W/ R/P, RDMO TO NBU 1022-3CT FOR T&A
8/2/2013		-							
8/21/2013	10:00	- 11:00	1.00	SUBSPR	52	В	Р		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG & FRAC VALVES 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST 88 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.
									PRESSURE TEST 8 5/8 X 4 1/2 TO 509 PSI HELD FOR 5 MIN LOST -327 PSI,BLED PSI OFF, REINSTALLED POP OFF SWIFN 50 PRESSURE ON SURFACE CASING FILLED SURFACE WITH 3 BBLS H2O
8/22/2013		- 11:00	0.25		48		Р		MIRU CASEDHOLE SOLUTION, HSM
0/00/0040	11:00	- 15:00	4.00		37	С	P		PERF STAGE 1 MESAVERDE
8/26/2013	6:45 9:00	- 7:00 - 16:00	0.25 7.00		48 36	Н	PP		HSM, REFER TO STIMULATION PJR FOR FLUID, SAND AND CHEMICAL VOLUMES, ALL STAGES WERE PERFORATED ACCORDING TO PERF RECORD IN OPEN WELLS, ALL STAGES WERE STIMULATED TO VENDOR POST JOB REPORT. ALL PLUGS ARE HALIBURTON 8K CBPS  FRAC STG #1] WHP=1500#, BRK DN PERFS=3551#, @= 4.9BPM, INTIAL ISIP=2551#, FG=.70, FINAL ISIP=3045#, FG=.75,
8/27/2012	6:00	- 6·1F	0.25		19		D		SET PLUG & PERFORATE STG #2
8/27/2013	0.00	- 6:15	0.25		48		Р		HSM,

## API Well Number: 43047525600000 US ROCKIES REGION **Operation Summary Report** Well: NBU 921-22I1CS RED Spud Date: 3/29/2013 Project: UTAH-UINTAH Site: NBU 921-22I PAD Rig Name No: MILES 2/2 **Event: COMPLETION** End Date: 8/31/2013 Start Date: 8/21/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/1973/E/0/620/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 7:00 - 17:00 10.00 36 Ρ Н FRAC STG #2] WHP=1800#, BRK DN PERFS=3491#, @=3.3 BPM, INTIAL ISIP=2773#, FG=.73, FINAL ISIP=3193#, FG=78., SET PLUG & PERFORATE STG #3 FRAC STG #3] WHP=1040#, BRK DN PERFS=2776#, @=4.8 BPM, INTIAL ISIP=2015#, FG=.66, FINAL ISIP=2660#, FG=.73, SET PLUG & PERFORATE STG #4 FRAC STG #4] WHP=1710#, BRK DN PERFS=2956#, @=2.8 BPM, INTIAL ISIP=2426#, FG=.71, FINAL ISIP=2782#, FG=.75, SET PLUG PERFORATE STG #5 8/28/2013 6:30 - 6:45 0.25 7:00 - 17:00 10.00 36 Н SET PLUG PERFORATE STG #5 FRAC STG #5] WHP=2015#, BRK DN PERFS=2462#, @=4.7 BPM, INTIAL ISIP=2125#, FG=.68, FINAL ISIP=2811#, FG=.76, SET PLUG AND PERFORATE STG #6 FRAC STG #6] WHP=1275#, BRK DN PERFS=2762#, @=3.8 BPM, INTIAL ISIP=2111#, FG=.69, FINAL ISIP=2820#, FG=.78, SET PLUG AND PERFORATE STG #7 8/29/2013 6:30 - 6:45 0.25 48 HSM, OVER HEAD LOADS 7:00 - 13:00 6.00 Ρ 36 Н FRAC STG #7] WHP=1,100#, BRK DN PERFS=2,850#, @=3.8 BPM, INTIAL ISIP=1,925#, FG=.68, FINAL ISIP=2,393#, FG=.74, SET PLUG AND PERFORATE STG #8 FRAC STG #8] WHP=1,560#, BRK DN PERFS=2,543#, @=4.5 BPM, INTIAL ISIP=1,978#, FG=.69, FINAL ISIP=2,446#, FG=..75, SET TOP KILL TOTAL BBLS= 8991 TOTAL SAND= 178093 7:00 - 7:15 8/30/2013 0.25 DRLOUT HSM, SLIPS, TRIPS & FALLS, RIGGING UP PU TBG 48 7:15 - 17:00 9.75 DRLOUT ROAD RIG 8/29/13, MIRU, ND WH, NU BOP INSTAL SINGLE PIPE RAM ON TOP OF DBL, PU TBG TO KILL PLUG. RU P/S. PT BOP TO 3.000 PSI. READY TO D/O PLUGS ON TUESDAY, SWI, SDFHOLIDAY 9/3/2031 7:00 - 7:15 0.25 JSA-SAFETY MEETING DRLOUT 48

API Well Number: 43047525600000 **US ROCKIES REGION Operation Summary Report** Well: NBU 921-22I1CS RED Spud Date: 3/29/2013 Site: NBU 921-22I PAD Project: UTAH-UINTAH Rig Name No: MILES 2/2 **Event: COMPLETION** End Date: 8/31/2013 Start Date: 8/21/2013 UWI: NE/SE/0/9/S/21/E/22/0/0/26/PM/S/1973/E/0/620/0/0 Active Datum: RKB @4,862.00usft (above Mean Sea P/U Date Time Duration Phase Code Sub MD From Operation Start-End (hr) Code (usft) 7:15 - 18:00 10.75 DRLOUT 44 Ρ С NO PRESSURE ON WELL HEAD, ESTB CIRC. (CBP #1) 7705', DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 600 # DIFF, RIH TAG SAND @ 7970 ', C/O 30 'SAND, FCP = 200 #, (CBP #2) 8000', DRILL OUT HALLIBURTON 8K CBP IN 6 MIN, 500 # DIFF, RIH TAG SAND @ 8127 ', C/O 30 'SAND, FCP = 300 #, (CBP #3) 8157', DRILL OUT HALLIBURTON 8K CBP IN 6 MIN, 400 # DIFF, RIH TAG SAND @ 8472 ', C/O 30 'SAND, FCP = 300 #, (CBP #4) 8502', DRILL OUT HALLIBURTON 8K CBP IN 8 MIN, 500 # DIFF, RIH TAG SAND @ 8881 ', C/O 20 'SAND, FCP = 350 #, (CBP #5) 8901', DRILL OUT HALLIBURTON 8K CBP IN 5 MIN, 400 # DIFF, RIH TAG SAND @ 9096 ', C/O 30 ' SAND, FCP = 400 #, (CBP #6) 9126', DRILL OUT HALLIBURTON 8K CBP IN 7 MIN, 300 # DIFF, RIH TAG SAND @ 9340 ', C/O 40 'SAND, FCP = 400 #, (CBP #7) 9380', DRILL OUT HALLIBURTON 8K CBP IN 8 MIN, 800 # DIFF, RIH TAG SAND @ 9535 ', C/O 30 ' SAND, FCP = 525 #, (CBP #8) 9565', DRILL OUT HALLIBURTON 8K CBP IN 8 MIN, 900 # DIFF, RIH TAG SAND @ ', C/O ' SAND, PBTD 9889', FCP = #, CIRC WELL CLEAN, P/O LAY DN 15 JTS ON TRAILER, LAND TBG W/ 296 JTS TBG @ 9399.15', START N/D BOPS, TBG BLOWED IN, R/U FLOW LINE FROM CSG AND TBG BLOW WELL DN, R/U CAMERON ON TOP OF BOP, SET BACK PRESSURE VALVE IN HANGER, N/D BOPS, N/U WH, CAMERON PULLED BACK PRESSURE VALVE, 1200# ON TBG, PUMP DN TBG, PUMP 55 BBLS WTR DN TBG TO PUMP BIT OFF NO PRESSURE INCREASE. BIT GONE. TURN WELL OVER TO FBC W/ 6322 BBLS WTR LEFT TO RECOVER, R/D UNIT MOVE TO NEXT WELL, KΒ 24.00' HANGER .83' 146 JTS 2 3/8" L-80 TBG = 4631.56' 1- 2 3/8" L-80 PUP JT 6.20' 150 JTS 2 3/8" J-55 TBG = 4734.36' XN- NIPPLE 1.875", 2.20 EOT = 9399.15' 163 JTS 2 3/8" L-80 TBG DELV

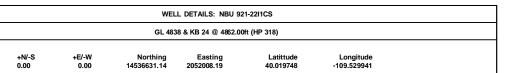
API Well Number: 43047525600000  US ROCKIES REGION											
Operation Summary Report											
Well: NBU 921-2	22I1CS RED						Spud Date: 3/2	9/2013			
Project: UTAH-L	JINTAH		Site: NBL	J 921-22I	PAD			Rig Name No: MILES 2/2			
Event: COMPLE	Event: COMPLETION Start Dat							End Date: 8/31/2013			
Active Datum: R Level)	ea	UWI: NI	E/SE/0/9/	S/21/E/22	2/0/0/26/PM/S/197	73/E/0/620/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation			
								150 JTS 2 3/8" J-55 TBG DELV 17 JTS 2 3/8" L-80 RETURNED			
	18:00 - 18:00	0.00	DRLOUT	50				WELL TURNED TO SALES @ 1800 HR ON 9/3/2013. 400 MCFD, 1920 BWPD, FCP 2290#, FTP 1264#, 20/64" CK.			

API Well Number: 4304752 Site: NBU 921-221 PAD

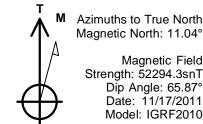
Scientific Drilling

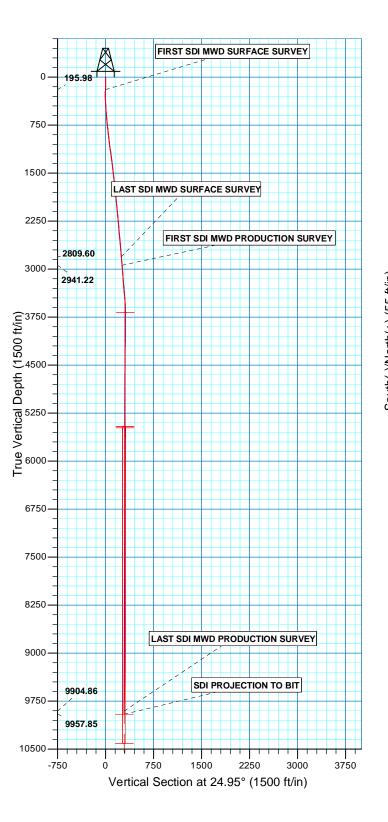
Well: NBU 921-2211CS

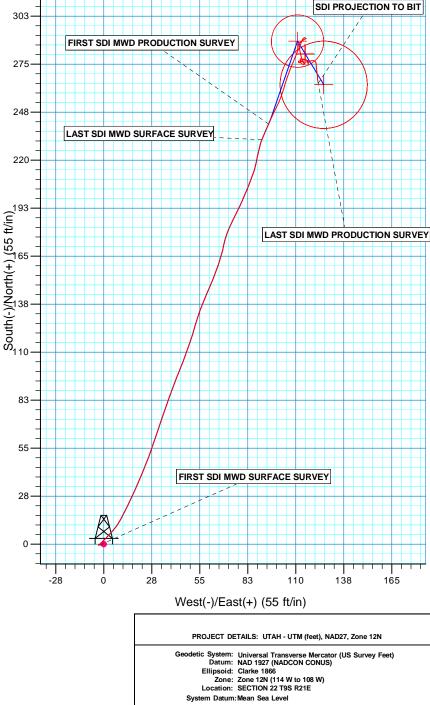
Wellbore: OH Design: OH











Design: OH (NBU 921-22I1CS/OH)

RECEIVoreated By: Sacre | Condall 2 Dete: 1021 Quie 32 2013



## **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N NBU 921-22I PAD NBU 921-22I1CS

OH

Design: OH

## **Standard Survey Report**

12 June, 2013



API Well Number: 43047525600000



## **SDI** Survey Report



Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22I1CS

Wellbore: OH
Design: OH

Geo Datum: Map Zone:

Site

Local Co-ordinate Reference:

eference: Well NBU 921-22I1CS

GL 4838 & KB 24 @ 4862.00ft (HP 318) GL 4838 & KB 24 @ 4862.00ft (HP 318)

North Reference: True

Survey Calculation Method: Minimum Curvature

Database:

**TVD Reference:** 

MD Reference:

EDM 5000.1 Single User Db

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS) Zone 12N (114 W to 108 W) System Datum: Mean Sea Level

NBU 921-22I PAD, SECTION 22 T9S R21E

Northing: 14,536,670.34 usft Site Position: Latitude: 40.019857 From: Lat/Long Easting: 2,051,977.29 usft Longitude: -109.530049 **Position Uncertainty:** 0.00 ft Slot Radius: 13.200 in **Grid Convergence:** 0.95 °

Well NBU 921-22I1CS, 1973 FSL 620 FEL **Well Position** +N/-S 0.00 ft Northing: 14,536,631.14 usft Latitude: 40.019748 +E/-W 0.00 ft Easting: 2,052,008.19 usft Longitude: -109.529941 0.00 ft Ground Level: 4,838.00 ft **Position Uncertainty** Wellhead Elevation: ft

ОН Wellbore **Model Name** Declination Dip Angle Field Strength Magnetics Sample Date (°) (°) (nT) IGRF2010 11/17/11 11.04 65.87 52,294

ОН Design Audit Notes: ACTUAL Version: 1.0 Phase: Tie On Depth: 0.00 **Vertical Section:** Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 24.95

06/12/13 **Survey Program** Date From То (ft) (ft) Survey (Wellbore) **Tool Name** Description 20.00 2,823.00 Survey #1 SDI MWD SURFACE (OH) SDI MWD SDI MWD - Standard ver 1.0.1 2,955.00 9,974.00 Survey #2 SDI MWD PRODUCTION (OH) SDI MWD SDI MWD - Standard ver 1.0.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00
196.00	1.32	261.88	195.98	-0.29	-2.01	-1.11	0.75	0.75	0.00
FIRST SDI N	IWD SURFACE	SURVEY							
281.00	0.18	200.45	280.98	-0.55	-3.02	-1.77	1.46	-1.34	-72.27
367.00	1.93	46.81	366.96	0.31	-2.01	-0.56	2.43	2.03	-178.65
457.00	3.72	45.58	456.85	3.40	1.18	3.58	1.99	1.99	-1.37
547.00	4.22	40.31	546.63	7.96	5.40	9.50	0.69	0.56	-5.86
637.00	5.28	29.59	636.32	14.09	9.59	16.82	1.53	1.18	-11.91
727.00	5.86	25.33	725.90	21.84	13.60	25.54	0.79	0.64	-4.73



## **SDI** Survey Report



Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22I1CS

Wellbore: OH
Design: OH

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method:

Database:

Well NBU 921-22I1CS

GL 4838 & KB 24 @ 4862.00ft (HP 318) GL 4838 & KB 24 @ 4862.00ft (HP 318)

True

Minimum Curvature

EDM 5000.1 Single User Db

Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
817.00	6.42	25.20	815.38	30.55	17.71	35.17	0.62	0.62	-0.14
907.00	6.95	22.20	904.77	40.14	21.91	45.64	0.71	0.59	-3.33
997.00	7.64	19.85	994.04	50.81	26.00	57.04	0.84	0.77	-2.61
1,087.00	7.56	18.95	1,083.25	62.04	29.95	68.89	0.16	-0.09	-1.00
1,177.00	7.65	17.55	1,172.46	73.35	33.68	80.71	0.23	0.10	-1.56
1,267.00	7.44	21.41	1,261.68	84.49	37.61	92.47	0.61	-0.23	4.29
1,357.00	7.12	20.18	1,350.95	95.15	41.67	103.84	0.40	-0.36	-1.37
1,447.00	6.86	22.29	1,440.29	105.36	45.63	114.77	0.41	-0.29	2.34
1,537.00	6.95	18.42	1,529.63	115.50	49.39	125.55	0.53	0.10	-4.30
1,627.00	5.80	15.35	1,619.08	125.05	52.31	135.45	1.33	-1.28	-3.41
1,717.00	5.76	19.13	1,708.62	133.70	55.00	144.42	0.43	-0.04	4.20
1,807.00	6.24	25.19	1,798.13	142.39	58.56	153.81	0.88	0.53	6.73
1,897.00	6.07	22.20	1,887.61	151.23	62.44	163.45	0.40	-0.19	-3.32
1,987.00	5.98	18.42	1,977.11	160.08	65.72	172.86	0.45	-0.10	-4.20
2,077.00	5.45	13.06	2,066.66	168.69	68.16	181.70	0.84	-0.59	-5.96
2,167.00	5.01	15.79	2,156.29	176.64	70.20	189.76	0.56	-0.49	3.03
2,257.00	4.31	26.86	2,245.99	183.43	72.80	197.02	1.26	-0.78	12.30
2,347.00	4.66	26.69	2,335.72	189.72	75.97	204.06	0.39	0.39	-0.19
2,437.00	5.45	24.14	2,425.37	196.88	79.36	211.99	0.91	0.88	-2.83
2,527.00	6.04	22.51	2,514.91	205.16	82.92	220.99	0.68	0.66	-1.81
2,617.00	6.07	17.19	2,604.41	214.08	86.14	230.44	0.62	0.03	-5.91
2,707.00	4.84	8.49	2,694.01	222.38	88.10	238.79	1.64	-1.37	-9.67
2,797.00	4.84	17.37	2,783.69	229.76	89.80	246.20	0.83	0.00	9.87
2,823.00	4.66	23.43	2,809.60	231.78	90.55	248.34	2.05	-0.69	23.31
	WD SURFACE S		,						
2,955.00	3.93	23.70	2,941.22	240.84	94.50	258.22	0.55	-0.55	0.20
	IWD PRODUCTION		0.005.00	040.77	07.05	004.70	0.00	0.40	0.00
3,049.00	4.05	26.14	3,035.00	246.77	97.25	264.76	0.22	0.13	2.60
3,144.00	4.58	24.30	3,129.73	253.24	100.29	271.91	0.58	0.56	-1.94
3,238.00	5.36	15.42	3,223.37	260.89	103.00	279.99	1.16	0.83	-9.45
3,332.00	4.69	20.02	3,317.01	268.73	105.49	288.15	0.83	-0.71	4.89
3,427.00	4.92	22.71	3,411.68	276.14	108.39	296.09	0.34	0.24	2.83
3,521.00	3.84	23.49	3,505.40	282.74	111.20	303.27	1.15	-1.15	0.83
3,615.00	2.37	20.43	3,599.26	287.45	113.13	308.35	1.57	-1.56	-3.26
3,710.00	0.70	39.67	3,694.23	289.74	114.19	310.87	1.82	-1.76	20.25
3,804.00	0.53	83.18	3,788.22	290.23	114.99	311.65	0.51	-0.18	46.29
3,898.00	0.67	113.44	3,882.22	290.07	115.92	311.90	0.36	0.15	32.19
3,993.00	0.71	261.25	3,977.21	289.76	115.85	311.59	1.40	0.04	155.59
4,087.00	0.88	229.18	4,071.20	289.20	114.73	310.60	0.50	0.18	-34.12
4,182.00	1.00	230.04	4,166.19	288.19	113.54	309.19	0.13	0.13	0.91
4,276.00	1.13	243.79	4,260.18	287.25	112.08	307.72	0.30	0.14	14.63
4,370.00	0.57	159.39	4,354.17	286.40	111.42	306.67	1.29	-0.60	-89.79



## **SDI** Survey Report



Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22I1CS

Wellbore: OH
Design: OH

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method:

Database:

Well NBU 921-22I1CS

GL 4838 & KB 24 @ 4862.00ft (HP 318) GL 4838 & KB 24 @ 4862.00ft (HP 318)

True

Minimum Curvature

EDM 5000.1 Single User Db

rvey										
	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
	4,559.00	0.97	174.15	4,543.15	283.84	112.25	304.70	0.32	0.09	19.06
	4,653.00	0.97	172.65	4,637.13	282.26	112.43	303.35	0.03	0.00	-1.60
	4,748.00	0.70	161.23	4,732.12	280.91	112.72	302.25	0.33	-0.28	-12.02
	4,843.00	0.88	172.30	4,827.12	279.64	113.01	301.21	0.25	0.19	11.65
	4,937.00	1.14	154.28	4,921.10	278.08	113.51	300.01	0.43	0.28	-19.17
	5,032.00	1.26	163.89	5,016.08	276.23	114.21	298.63	0.25	0.13	10.12
	5,126.00	0.48	1.54	5,110.07	275.63	114.51	298.21	1.83	-0.83	-172.71
	5,221.00	0.44	331.30	5,205.07	276.35	114.34	298.79	0.26	-0.04	-31.83
	5,315.00	0.31	318.39	5,299.07	276.85	114.00	299.11	0.16	-0.14	-13.73
	5,409.00	0.34	247.50	5,393.07	276.94	113.57	299.00	0.40	0.03	-75.41
	5,504.00	0.35	235.49	5,488.07	276.66	113.08	298.54	0.08	0.01	-12.64
	5,598.00	0.78	231.85	5,582.06	276.11	112.34	297.73	0.46	0.46	-3.87
	5,693.00	0.53	324.18	5,677.06	276.06	111.57	297.36	1.01	-0.26	97.19
	5,787.00	0.29	23.89	5,771.06	276.63	111.41	297.81	0.49	-0.26	63.52
	5,882.00	0.44	83.53	5,866.05	276.89	111.87	298.24	0.41	0.16	62.78
	5,976.00	0.35	93.73	5,960.05	276.92	112.52	298.54	0.12	-0.10	10.85
	6,071.00	0.45	112.38	6,055.05	276.75	113.15	298.66	0.17	0.11	19.63
	6,165.00	0.39	119.03	6,149.05	276.46	113.77	298.65	0.08	-0.06	7.07
	6,259.00	0.97	120.97	6,243.04	275.89	114.73	298.55	0.62	0.62	2.06
	6,354.00	0.28	239.57	6,338.04	275.36	115.22	298.27	1.19	-0.73	124.84
	6,448.00	0.33	185.73	6,432.03	274.98	115.00	297.83	0.30	0.05	-57.28
	6,543.00	0.62	299.65	6,527.03	274.96	114.52	297.61	0.85	0.31	119.92
	6,637.00	0.62	269.07	6,621.03	275.20	113.57	297.43	0.35	0.00	-32.53
	6,732.00	1.12	347.39	6,716.02	276.10	112.86	297.94	1.23	0.53	82.44
	6,826.00	0.59	351.40	6,810.01	277.48	112.58	299.07	0.57	-0.56	4.27
	6,920.00	0.24	40.47	6,904.01	278.10	112.64	299.67	0.50	-0.37	52.20
	7,015.00	0.26	86.08	6,999.00	278.27	112.98	299.96	0.20	0.02	48.01
	7,109.00	0.43	147.06	7,093.00	277.99	113.39	299.88	0.40	0.18	64.87
	7,203.00	0.57	154.01	7,187.00	277.27	113.79	299.39	0.16	0.15	7.39
	7,297.00	0.48	5.29	7,281.00	277.24	114.03	299.47	1.08	-0.10	-158.21
	7,391.00	0.26	13.25	7,375.00	277.84	114.11	300.05	0.24	-0.23	8.47
	7,485.00	0.08	59.75	7,469.00	278.08	114.22	300.31	0.23	-0.19	49.47
	7,579.00	0.38	153.11	7,562.99	277.84	114.41	300.17	0.42	0.32	99.32
	7,674.00	0.27	65.72	7,657.99	277.65	114.76	300.15	0.48	-0.12	-91.99
	7,768.00	0.35	92.23	7,751.99	277.73	115.25	300.43	0.17	0.09	28.20
	7,863.00	0.70	112.97	7,846.99	277.49	116.07	300.56	0.41	0.37	21.83
	7,957.00	0.60	121.88	7,940.98	277.01	117.02	300.52	0.15	-0.11	9.48
	8,051.00	0.46	248.12	8,034.98	276.61	117.09	300.19	1.01	-0.15	134.30
	8,146.00	0.34	317.13	8,129.98	276.67	116.54	300.01	0.49	-0.13	72.64
	8,240.00	0.18	298.51	8,223.98	276.95	116.22	300.13	0.19	-0.17	-19.81
	8,334.00	0.51	150.49	8,317.98	276.65	116.30	299.89	0.71	0.35	-157.47
	8,429.00	0.74	150.76	8,412.97	275.75	116.81	299.29	0.71	0.24	0.28
	8,523.00	0.24	4.39	8,506.97	275.42	117.12	299.12	1.01	-0.53	-155.71
	8,618.00	0.24	20.39	8,601.97	275.42	117.12	299.67	0.23	0.21	16.84

API Well Number: 43047525600000



## **SDI** Survey Report



Company: US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22I PAD

 Well:
 NBU 921-22I1CS

Wellbore: OH
Design: OH

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference: Well NBU 921-22I1CS GL 4838 & KB 24 @ 4862.00ft (HP 318)

GL 4838 & KB 24 @ 4862.00ft (HP 318)

True

Survey Calculation Method: Minimum Curvature

**Database:** EDM 5000.1 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,712.00	0.53	58.48	8,695.96	276.52	117.76	300.39	0.35	0.10	40.52
8,806.00	0.44	74.13	8,789.96	276.85	118.48	300.99	0.17	-0.10	16.65
8,901.00	0.70	80.98	8,884.96	277.04	119.40	301.55	0.28	0.27	7.21
8,995.00	0.46	91.58	8,978.95	277.12	120.34	302.02	0.28	-0.26	11.28
9,090.00	0.55	134.94	9,073.95	276.79	121.05	302.02	0.40	0.09	45.64
9,185.00	0.62	158.06	9,168.94	275.99	121.56	301.51	0.26	0.07	24.34
9,279.00	0.62	184.17	9,262.94	275.01	121.72	300.69	0.30	0.00	27.78
9,374.00	0.88	173.53	9,357.93	273.77	121.76	299.58	0.31	0.27	-11.20
9,468.00	0.70	178.01	9,451.92	272.48	121.86	298.46	0.20	-0.19	4.77
9,562.00	0.88	172.13	9,545.91	271.19	121.98	297.34	0.21	0.19	-6.26
9,657.00	0.96	169.95	9,640.90	269.68	122.22	296.07	0.09	0.08	-2.29
9,751.00	0.95	177.50	9,734.89	268.13	122.39	294.74	0.13	-0.01	8.03
9,846.00	1.02	177.87	9,829.87	266.50	122.46	293.28	0.07	0.07	0.39
9,921.00	1.14	168.70	9,904.86	265.10	122.63	292.09	0.28	0.16	-12.23
LAST SDI M	WD PRODUCTIO	N SURVEY							
9,974.00	1.14	168.70	9,957.85	264.07	122.83	291.24	0.00	0.00	0.00

Design Annotations	3				
Mea	asured	Vertical	Local Coo	rdinates	
	epth (ft)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
	` ,	,	(11)	(11)	Comment
	196.00	195.98	-0.29	-2.01	FIRST SDI MWD SURFACE SURVEY
2	2,823.00	2,809.60	231.78	90.55	LAST SDI MWD SURFACE SURVEY
2	2,955.00	2,941.22	240.84	94.50	FIRST SDI MWD PRODUCTION SURVEY
9	9,921.00	9,904.86	265.10	122.63	LAST SDI MWD PRODUCTION SURVEY
9	9,974.00	9,957.85	264.07	122.83	SDI PROJECTION TO BIT

Checked By:	Approved By:	Date: